United States et al. v. General Electric Company (D. Mass.)

Appendix E to Consent Decree

Volume I

Statement of Work for Removal Actions Outside the River

Pittsfield/Housatonic River Site
General Electric Company
Pittsfield, Massachusetts

October 1999

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

6723 Towpath Road, P.O. Box 66
Syracuse, New York, 13214-0066
(315) 446-9120

APPENDIX E TO CONSENT DECREE

STATEMENT OF WORK FOR REMOVAL ACTIONS OUTSIDE THE RIVER

PITTSFIELD/HOUSATONIC RIVER SITE
GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

TABLE OF CONTENTS

VOLUME I

List of Figures

List of Technical Attachments

(list of Technical Attachments continued on next page)

List of Technical Attachments (cont.)

List of Annexes
Volumes II through V (Separately Bound)

STATEMENT OF WORK FOR REMOVAL ACTIONS OUTSIDE THE RIVER

PITTSFIELD/HOUSATONIC RIVER SITE
GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

1.0 INTRODUCTION AND PURPOSE

1.1 General

This *Statement of Work for Removal Actions Outside the River* (SOW) describes the response actions and deliverables that the General Electric Company (GE) shall perform and submit, pursuant to the foregoing Consent Decree (CD), for the Removal Actions Outside the River, as defined in the CD. Under the CD, the Removal Actions Outside the River consist of the response activities that GE is required to perform at or related to a number of specified areas at the Pittsfield/Housatonic River Site (Site). Those areas are generally depicted on Figures 1-1 and 1-2. In combination with the CD, this SOW sets forth the Performance Standards for the Removal Actions Outside the River and describes the technical requirements associated with such actions, the required technical design and implementation submittals and deliverables as part of Removal Design/Removal Action (RD/RA) activities, the implementation schedule, and future activities following completion of the RD/RA activities (which are referred to herein as Post-Removal Site Control activities). Also described in this SOW are the Performance Standards and related requirements for certain natural resource restoration/habitat enhancement projects provided for in the CD as part of the settlement of claims against GE for natural resource damages (NRD).

As described in the CD and this SOW, all response activities associated with these Removal Actions will be performed under the oversight and with the approval of the United States Environmental Protection Agency (EPA), after reasonable opportunity for review and comment by the Massachusetts Department of Environmental Protection (MDEP). All EPA approvals of plans and other submittals under this SOW shall be pursuant to Section XV of the CD. The natural resource restoration/habitat enhancement activities that are part of the NRD component of the CD will be performed under the oversight and with the approval of the natural resource trustees, as provided in the CD and this SOW.

The Removal Actions described in this SOW will address polychlorinated biphenyls (PCBs) and other Appendix IX +3 constituents that are present in soils, sediments, and groundwater at the areas subject to the Removal Actions Outside the River. These Removal Actions are based on an Action Memorandum

for Removal Actions Outside the River, signed by the Regional Administrator, EPA Region I, on August 5, 1999. In addition, GE has executed an agreement, known as the Definitive Economic Development Agreement, with the City of Pittsfield and the Pittsfield Economic Development Authority (PEDA) to assist in redevelopment of certain areas of GE's Pittsfield facility. As appropriate, reference to those activities is presented in this SOW.

1.2 Definitions

Unless otherwise expressly stated in this SOW, all terms that are defined in Section IV of the CD shall have the same meaning in this SOW. In addition, when the term "ERE" is used in this SOW, it shall mean a Grant of Environmental Restrictions and Easements that meets the requirements for EREs set out in Section XIII of the CD. Various other terms are also defined in this SOW and shall have the meanings set forth herein.

1.3 Identification and Description of Areas Subject to Removal Actions Outside the River

As noted above, the Removal Actions Outside the River consist of the activities that GE is required to perform under the CD and this SOW at or related to several specific areas at the Site. These areas, referred to herein as Removal Action Areas (RAAs), have been identified based on a number of considerations, including geographic location, prior regulatory definition and status, scope and timing of response actions, current and reasonably foreseeable land use, and nature and extent of the affected media. Figures 1-1 and 1-2 generally identify the RAAs; the RAAs are also identified and briefly described below. More detailed figures depicting the RAAs are referenced in Section 2.0 of this SOW. In the case of discrepancies between figures, the more detailed figure or descriptions shall govern. Note that certain areas within and/or adjacent to an RAA (e.g., utilities, easements, etc.) may be subject to different response actions as described within this SOW. In addition, certain RAAs may contain or be bounded by public roadways. In these circumstances, response actions will extend to the edge of the road pavement, and the road pavement (and the underlying soils) will not be considered part of the RAA.

The RAAs identified in this section of the SOW will be the focus of the Removal Actions Outside the River that do not relate to groundwater or subsurface Non-Aqueous Phase Liquid (NAPL). For the Removal Actions that relate to groundwater and NAPL, to reflect the fact that the extent of affected groundwater and/or NAPL may extend across several RAAs, certain groupings of RAAs, referred to

herein as Groundwater Management Areas (GMAs), shall be utilized. These GMAs are identified in Section 2.8 and Attachment H (Groundwater/NAPL Monitoring, Assessment, and Response Programs) of this SOW.

As RD/RA activities proceed in accordance with this SOW, it may be necessary or appropriate to combine certain of the RAAs identified below, or alternatively, to establish new or additional RAAs. Such modifications would be implemented in accordance with the appropriate provisions of the CD. Similar modifications could also be necessary or appropriate for the GMAs discussed in Section 2.8 and Attachment H of this SOW.

GE Plant Area

40s Complex - This approximately 9-acre area is located within the western portion of GE's Pittsfield facility and is generally bounded by Kellogg Street to the north, other areas of the GE facility to the south and east, and non-GE owned commercial/industrial areas to the west. Currently, Buildings 42, 43, 43-A, and 44 comprise nearly one-half of this area (eastern portion) while the remainder is mostly paved (asphalt/concrete). Previously, Buildings 40-B, 41, and 41-A comprised much of the western portion of this area; these buildings were demolished in the early 1990s, although the subgrade portions of these buildings remain within this area.

30s Complex - This approximately 20-acre area is located south of the 40s complex, and is generally bounded by Silver Lake Boulevard to the west, East Street to the south, and other areas of the GE facility to the south and east. The surface of this area is generally comprised of asphalt/concrete, some unpaved areas, and several existing buildings. This area of the facility is a component of the re-development agreement between GE and the City of Pittsfield.

20s Complex - This approximately 15-acre area is located immediately east of the 30s Complex within the western portion of the GE facility, and is generally bounded by East Street to the south and other areas of the GE facility to the north and east. Current conditions within this area are predominantly characterized by the existing asphalt parking areas. Previously, these areas were associated with most of the 20s Complex buildings which were razed in the late 1980s. At this time, only two buildings remain in this area.

East Street Area 2 - South - This area comprises approximately 50 acres of the western portion of the GE facility. It is generally bounded by East Street to the north, Newell Street to the east, the Housatonic River to the south, and the Lyman Street Area to the west. The western portion of this area is comprised mostly of the 60s Complex, and is otherwise mostly paved. The eastern portion of this area contains a former Housatonic River oxbow that was formed when the river meandered through this area. This area is currently characterized as mostly open areas, with a relatively small wooded area located south of the former oxbow.

For the Removal Action for this specific RAA, the requirements established in this SOW are applicable to the non-riverbank portion of the area. The riverbank portion adjacent to this area will be subject to the Removal Action associated with the Upper ½ Mile Reach, as described in the CD, as well as NAPL source control activities, as described in Section 2.7 of this SOW.

East Street Area 2 - North - This approximately 50-acre area is also located within the western portion of the GE facility. It is currently covered mostly with buildings and pavement. However, several relatively small grassy areas are present within the eastern portion of this area. This area is generally bounded by Tyler Street to the north, New York Avenue to the east, Woodlawn Avenue and the 40s Complex to the west, and Merrill Road, the 20s Complex, and East Street Area 1 to the south.

East Street Area 1 - North - This approximately 5-acre area is located immediately south of the East Street Area 2 - North RAA and east of the 20s Complex. This area is mostly unpaved, and is generally bounded by Merrill Road to the north and west, East Street to the south, and a non-GE owned commercial area to the east. This area also includes the area currently occupied by a commercial-use building (of which GE owns a portion), and a relatively small unpaved GE-owned property south of East Street, which contains a NAPL containment/recovery system.

It should be noted that the area between this RAA and the Housatonic River, designated as East Street Area 1-South, is included in the overall GMA that encompasses this part of the GE Plant Area, and groundwater and NAPL in that area will be addressed in accordance with the CD and this SOW. However, soil-related issues in East Street Area 1-South will not be addressed pursuant to the CD and this SOW, but rather pursuant to a revised Administrative Consent Order to be executed by GE and MDEP. Hence, this area is not considered a RAA for purposes of soil-related response actions.

Hill 78 Consolidation Area - This approximately 6 -acre area currently rises approximately 15 feet above grade, and is located near the center of the GE facility. This area includes the former Hill 78 landfill, which was originally created in the early 1940s as an on-site disposal area for excavated soils generated within the GE facility and was capped in 1991 with a geotextile layer and either one foot of crushed stone or soil. As discussed in Section 2.1.4 of this SOW, this area will be utilized as an on-plant consolidation area for certain materials excavated or otherwise removed as part of various Removal Actions at the Pittsfield/Housatonic River Site.

Building 71 Consolidation Area - This approximately 5-acre area is also located within the central portion of the GE facility. It is located immediately to the east of the Hill 78 Consolidation Area. With the exception of the Building 71, this area is unpaved and is generally bounded by paved parking areas to the north and east, by the Hill 78 Consolidation Area to the west, and U.S. Generating Company facilities to the south. As discussed in Section 2.1.4 of this SOW, this area will be utilized as an on-plant consolidation area for certain materials excavated or otherwise removed as part of various Removal Actions at the Pittsfield/Housatonic River Site.

Hill 78 Area - Remainder - The remaining portion of the Hill 78 Area comprises approximately 60 acres of the GE facility. These areas are generally bounded by the Tyler Street Extension to the north, Merrill Road to the south, New York Avenue and other areas of the GE facility to the west, and other areas of the GE facility to the east. With the exception of paved roadways associated with Building 78, the U.S. Generating Company's cogeneration facility, the remaining areas of the Hill 78 Area are generally open. As described in Section 2.1.4 of this SOW, a small portion of this area (on the northeast corner of New York Avenue and Merrill Road) has also been selected for possible future use as an on-plant consolidation area.

Unkamet Brook Area - This approximately 140 -acre area consists of the eastern portion of the GE facility and is bounded by Dalton Avenue to the north, Plastics Avenue and the Hill 78 Area - Remainder to the west, Merrill Road to the south and to the east by railroad tracks. This area also contains commercial/recreational property located between Merrill Road and the Housatonic River to the south. The GE-owned portion of this area located west of Unkamet Brook is mostly paved and covered with large buildings. The GE-owned portion of this area east of Unkamet Brook, as well as much of the land between Merrill Road and the Housatonic River, is undeveloped (except for the area associated with Building OP-3 and the commercial area along Merrill Road).

Former Oxbow Areas

Former Oxbow Areas A and C - This RAA comprises Former Oxbow Areas A and C. Former Oxbow Area A is approximately 5 acres in size and occupies a large open field on the south side of the Housatonic River north of Elm Street and Newell Street. The majority of this area is undeveloped and covered with grass and low brush, although commercial businesses occupy a portion of the parcels containing the former oxbows. Former Oxbow Area C is approximately 2 acres in size and located immediately east of Former Oxbow Area A, along the south side of the Housatonic River, near the end of Day Street. This area consists mostly of an undeveloped field surrounded by trees and brush.

For the Removal Action for this RAA the requirements established in this SOW are applicable to the non-riverbank portion of each former oxbow area. The riverbank portion adjacent to this area will be subject to a separate Removal Action associated with the 1 ½ Mile Reach of the Housatonic River, as described in the CD.

Lyman Street Area - This approximately 9-acre area is located immediately west of the East Street Area 2 - South RAA and is generally bounded by the Housatonic River to the south, East Street and several commercial/residential properties to the north, and Cove Street to the west. Approximately 3 acres of this area is composed of the GE-owned Lyman Street Parking Lot, which is paved. The remaining GE-owned portions of this area are partially paved and undeveloped. The non-GE-owned portions of this area consist of an undeveloped right of way for high tension electricity transmission lines (containing Former Oxbow Area E) and Former Oxbow Area B. Former Oxbow Area B is approximately 3 acres in size and located north of and across the Housatonic River from Former Oxbow Area C, west of Lyman Street, and immediately east of Cove Street. Nearly all of this former oxbow area is used for parking in support of local commercial businesses, although a commercial use building occupies a small portion of this area. The remaining portions are undeveloped.

For the Removal Action for this specific RAA, the requirements established in this SOW are applicable to the non-riverbank portion of this area. The riverbank portion adjacent to this area will be subject to Removal Actions associated with the Upper ½ Mile Reach and the 1 ½ Mile Reach of the Housatonic River (as described in the CD), as well as NAPL source control activities as described in Section 2.7 of this SOW.

Newell Street Area II - This approximately 8-acre area is located immediately west of Newell Street Area I and is generally bounded by the Housatonic River to the north, Newell Street and residential property to the south, and Sackett Street to the west. Approximately 3 acres of this area is composed of the GE-owned Newell Street Parking Lot, which is paved. The remaining GE-owned portions of this area are wooded. The non-GE-owned portions of this area consist of an undeveloped right of way for high tension electricity transmission lines, and undeveloped private, non-residential property.

For the Removal Action for this RAA, the requirements established in this SOW are applicable to the non-riverbank portion of this area. The riverbank portion adjacent to this area will be subject to a separate Removal Action associated with the Upper ½ Mile Reach of the Housatonic River, as described in the CD.

Newell Street Area I -This approximately 11-acre area is generally composed of 10 commercial/industrial properties and three recreational properties located along Newell Street. This area is bounded by the Housatonic River to the north, Newell Street to the south, the Hibbard School playground to the east (including the northwest corner of that playground within this RAA), and Ontario Street Extension and the GE-owned Newell Street Parking Lot to the west.

For the Removal Action for this specific RAA, the requirements established in this SOW are applicable to the non-riverbank portion of this area. The riverbank portion adjacent to this area will be subject to a separate Removal Action for the Upper ½ Mile Reach of the Housatonic River, as described in the CD.

Former Oxbow Areas J and K - These areas are located approximately 2,500 feet upstream of the Newell Street bridge. Former Oxbow Area J measures approximately 4 acres in size, and is located on the north side of the Housatonic River near Fasce Place. Former Oxbow Area K occupies approximately one acre and is located on the south side of the Housatonic River across from Former Oxbow Area J near Ventura Avenue. While Former Oxbow Area K is undeveloped, Former Oxbow Area J is composed of residential property to the west and commercial property to the north along East Street. For the Removal Action for this RAA, the requirements of this SOW apply to both the riverbank and non-riverbank portions of the former oxbow areas.

Allendale School Property

The Allendale School Property is located to the north of the GE facility across the Tyler Street Extension, and is bordered on the other three sides by residential areas. The school building occupies approximately 40,000 square feet within a property of approximately 12 acres in size. In 1991, a 2-foot soil cap (with geotextile) was placed over much of the playground area by GE. In 1998, some soil outside the existing cap was found to contain PCBs exceeding 2 ppm and was removed by GE. In July 1999, GE commenced the Removal Action described in this SOW for the Allendale School Property pursuant to an Action Memorandum issued by EPA on July 12, 1999 (attached as Appendix C to the CD).

Housatonic River Floodplain

This SOW describes the Removal Actions that GE shall conduct for certain properties located in the floodplain of the Housatonic River. For the purposes of these Removal Actions, the floodplain is defined as the approximate 1 ppm PCB isopleth line as generally shown on Figures 2-7 through 2-24. The Removal Actions required pursuant to this SOW will relate to three RAAs described below.

Floodplain Current Residential Properties Adjacent to 1 ½-Mile Reach- Actual/Potential Lawns - The 1½ Mile Reach is defined by the Lyman Street bridge (upstream) and the confluence with the West Branch (downstream) (Figure 1-2). This RAA includes the Actual/Potential Lawns (as defined in the CD), of approximately 35 residential properties along this reach, where such areas are located within the floodplain. Excluded from this RAA are those properties associated with the Former Oxbow Area RAAs, as well as the portions of the residential properties that are not Actual/Potential Lawns (which will be addressed as part of a separate Removal Action for the 1 ½ Mile Reach of the Housatonic River, as described in the CD).

Floodplain Non-Residential Properties Adjacent to 1 ½-Mile Reach (Excluding Banks) - As noted above, the 1 ½ Mile Reach is defined by the Lyman Street bridge (upstream) and the confluence with the West Branch (downstream), including Fred Garner Park. This RAA includes non-bank portions of approximately 11 non-residential properties along this reach where such portions are located within the floodplain. Excluded from this RAA are those properties associated with the Former Oxbow Areas RAAs, as well as the portions of non-residential properties that are situated on the riverbank (which will be addressed as part of the separate Removal Action for the 1 ½ Mile Reach, as described in the CD).

Floodplain Residential Properties Downstream of Confluence - Actual/Potential Lawns - This RAA begins at the confluence with the West Branch and extends in a downriver direction (Figure 1-2). This RAA includes the Actual/Potential Lawns (as defined in the CD) of the following residential properties where such areas are located within the floodplain: approximately 12 residential properties between the confluence and Woods Pond Dam, as generally depicted on Figures 2-9 through 2-24, and any other residential properties downstream of Woods Pond Dam with Actual/Potential Lawns present in the floodplain that are found to contain PCBs greater than 2 ppm.

This SOW does not address the following: 1) the river sediments and riverbank soils located in the reach between Newell Street and Lyman Street in Pittsfield (Upper ½ Mile Reach), in which GE will undertake a Removal Action in accordance with work plans approved by EPA and addressed separately in the CD; 2) sediments and riverbank soils in the next 1 ½ Mile Reach of the river, which will be subject to a Removal Action to be selected and implemented by EPA (and partially funded by GE) through a separate process described in the CD; or 3) sediments and riverbank soils in the remaining stretch of the Housatonic River (Downstream of the Confluence), as well as other floodplain soils in that stretch (i.e., non-residential areas and residential areas that are not Actual/Potential Lawns), all of which will be addressed through a separate process described in the CD.

Silver Lake Area

The Silver Lake Area is located immediately to the west of and across Silver Lake Boulevard from the 30s Complex RAA and includes the lake and its banks. Silver Lake has a surface area of approximately 26 acres and a maximum water depth of about 30 feet. It receives stormwater contributions from several municipal outfalls, a portion of the GE Plant Area (via NPDES-permitted outfalls), and a number of non-GE-owned properties (both commercial and residential). Silver Lake is hydraulically connected to the Housatonic River by a 48-inch diameter concrete conduit located near the intersection of Fenn Street and East Street. This conduit conveys intermittent discharge from Silver Lake and stormwater runoff from Fenn Street and East Street to the Housatonic River.

1.4 Format of SOW

Section 2 of this SOW presents the Performance Standards for the Removal Actions Outside the River, together with other technical requirements, the requisite technical submittals and deliverables, and future

Post-Removal Site Control Activities. Section 2 first describes certain general requirements and Performance Standards applicable to these Removal Actions, including Applicable or Relevant and Appropriate Requirements (ARARs), the Project Operations Plan, general requirements relating to response actions for soils, and requirements relating to the on-plant consolidation areas to be used for disposition of certain materials generated as a result of the Removal Actions.

Next, Section 2 sets forth the Performance Standards and other requirements for the Removal Actions that do not relate to groundwater or subsurface NAPL. These Performance Standards and requirements are separately discussed for the GE Plant Area RAAs, the Former Oxbow Areas, the Allendale School Property, the Housatonic River floodplain RAAs, and the Silver Lake Area.

Section 2 then describes the Performance Standards and other requirements for the Removal Actions related to groundwater and/or subsurface NAPL. These Removal Actions pertain to specified groupings of RAAs, referred to as GMAs. Finally, Section 2 describes the Performance Standards and other requirements for the natural resource restoration/habitat enhancement activities that GE is required to perform at certain RAAs under the CD as part of the NRD settlement. The Performance Standards and requirements discussed in Section 2 are supported and further explained in a number of technical attachments to this SOW.

Section 3 of this SOW describes the series and sequence of technical RD/RA deliverables that GE shall prepare for each Removal Action Outside the River.

1.5 Coordination of Response Activities

Response activities associated with the Removal Actions Outside the River will require a significant level of project scheduling, coordination, and sequencing. For Removal Actions that do not relate to groundwater or NAPL, the RD/RA activities for each Removal Action shall include the following:

- Pre-Design Work Plan;
- Pre-Design Summary Report;
- Conceptual Removal Design / Removal Action Work Plan (where applicable);

- Removal Design / Removal Action Work Plan;

- Removal Action construction activities;

- Final Completion Report; and

- Post-Removal Site Control activities.

The scope and content of these activities and deliverables are discussed further in Section 3.

In addition, for the Removal Actions that relate to groundwater and NAPL, a number of separate deliverables and activities are required for each GMA, as described in Attachment H to this SOW (Groundwater/NAPL Monitoring, Assessment, and Response Programs). These include:

- Baseline Monitoring Program Proposal;

- Baseline monitoring program activities and Baseline Assessment Interim Reports;

- Baseline Assessment Final Report and Long-Term Monitoring Program Proposal;

- Long-term monitoring program activities and event-specific Monitoring Event Evaluation Reports; and

- Long-Term Trend Evaluation Reports.

The schedule for submittal of the initial Pre-Design Work Plans for the non-groundwater/NAPL-related Removal Actions (except for the Removal Actions for which such work plans have already been submitted prior to the lodging of the CD) is set forth in Attachment A to this SOW. The schedule for submittal of the initial proposals for the Removal Actions that relate to groundwater and NAPL is included in Attachment H to this SOW. Where these schedules require the submission of such initial work plans or proposals after lodging but before entry of the CD, GE shall not be required to commence the on-site investigations described in such work plans or proposals until after entry of the CD, in

accordance with the schedules set out in such work plans or proposals as approved by EPA. The schedule for subsequent deliverables and activities for each Removal Action shall be in accordance with Section VII of the CD, Attachment H to this SOW (for groundwater/NAPL-related Removal Actions), and the schedules set out in prior deliverables for such Removal Action. GE shall perform the response activities for each Removal Action, including pre-design investigations, design work, and implementation of the actions, according to the applicable schedule as described above.

2.0 DESCRIPTION OF REMOVAL ACTIONS AND PERFORMANCE STANDARDS

2.1 General Removal Action Provisions

GE shall design, construct, operate, monitor, and maintain the Removal Actions Outside the River in compliance with all provisions of the CD and this SOW (including all technical attachments and submittals hereunder) and in compliance with the Performance Standards and schedule identified in the CD and this SOW. For each Removal Action, GE shall achieve and maintain the Performance Standards established in the CD and described in this SOW.

This section sets forth a number of general requirements associated with the Removal Actions Outside the River.

2.1.1 Applicable or Relevant and Appropriate Requirements (ARARs)

The federal and state laws and regulations that constitute applicable or relevant and appropriate requirements (ARARs) for the Removal Actions Outside the River are identified in tables contained in Attachment B to this SOW (Applicable or Relevant and Appropriate Requirements). In addition, for the Allendale School Removal Action (which has ready commenced), the ARARs are set forth in a table contained in an attachment to EPA's July 12, 1999 Action Memorandum for the Allendale School Removal Action (Appendix C to the CD). Further, for the on-plant consolidation areas, the ARARs are set forth in Tables 1 and 2 in a Supplemental Addendum (dated September 8, 1999) to the Detailed Work Plan for On-Plant Consolidation Areas, which is included in Annex 1 to this SOW.

Under the National Contingency Plan (NCP) pursuant to CERCLA, removal actions must attain ARARs only to the extent practicable considering the exigencies of the situation (40 CFR 300.415(j)). In addition, EPA may waive particular ARARs under any of the same circumstances for which the NCP allows a waiver for remedial actions under CERCLA (40 CFR 300.430(f)(2)(C)). The tables contained in Attachment B and the other ARARs tables referenced above include a description of the listed ARARs and a determination by EPA, pursuant to the above-cited NCP provisions, as to whether and how the listed ARARs should be met. Unless EPA has determined that an ARAR shall not be met, GE shall comply with and attain the ARARs listed in those tables.

In addition, the technical RD/RA submittals for each Removal Action Outside the River shall specify additional ARARs (not listed in Attachment B), if any, for such Removal Actions and shall contain a proposal as to whether and how the Removal Action will comply with such additional ARARs. GE shall comply with and attain all such additional ARARs that EPA determines, pursuant to the above-cited NCP provisions, should be met by such Removal Action.

2.1.2 Project Operations Plan

GE shall comply with Attachment C to this SOW (Project Operations Plan) for the RD/RA process for the Removal Actions Outside the River, including pre-design activities (i.e., field investigations) and the subsequent performance of response actions. Included in the Project Operations Plan are several activities that are common to these Removal Actions, and which are contained in the following plans:

- Field Sampling Plan / Quality Assurance Project Plan;
- Health & Safety Plan;
- Construction Quality Assurance Plan;
- Contingency Plan and Emergency Procedures;
- Air Monitoring Plan;
- Site Management Plan;
- Waste Characterization Plan; and
- Soil Cover/Backfill Characterization Plan.

Adherence to the procedures and protocols presented in the above plans will provide a level of consistency and comparability for the evaluations and response actions conducted for each Removal Action, and will also establish minimum requirements concerning analytical and construction quality assurance, site security, and health and safety.

GE's current *Sampling and Analysis Plan / Data Collection and Analysis Quality Assurance Plan* (SAP/DCAQAP) and *Site Health and Safety Plan* (HASP) will be used and/or modified, as approved or required by EPA, to satisfy several requirements of the Project Operations Plan. In addition, the contents of the Project Operations Plan are subject to modification or adjustment based on specific RD/RA activities for a given Removal Action, and any site- or activity-specific considerations. If deviations to the contents of this Project Operations Plan are proposed for a specific Removal Action, such proposals will be presented in the technical RD/RA deliverables specific to that Removal Action.

2.1.3 Response Activities for Soils

To achieve the Performance Standards established for each Removal Action, GE shall conduct further investigations, evaluations, and design activities pursuant to the requirements of the CD, this SOW, and the technical attachments to this SOW. With respect to the presence of PCBs and non-PCB constituents present in soils, the scope of response activities will be based on those currently available soils data which are determined to be acceptable based on a data quality assessment, other site information, and the results of additional soil investigations/studies by both GE and EPA. The data set available following any such pre-design activities is intended to be sufficient to support response action evaluation and design activities, but may be supplemented by EPA. GE shall comply with Attachment D to this SOW (Protocols for Additional Soil Investigations), which describes the protocols that will be utilized to obtain additional PCB and non-PCB soils data.

The scope of response actions to address PCBs in soils will be determined by spatial averaging methods, as described in Attachment E to this SOW (Protocols for PCB Spatial Averaging), except as otherwise specified in Attachment E or this SOW. Additional information related to the spatial averaging to be conducted at each RAA subject to spatial averaging, including a discussion regarding the areas over which PCB concentrations will be averaged (averaging areas), is included in later sections of this SOW, as well as in Attachment E. GE shall comply with the protocols described in Attachment E to this SOW in calculating spatial averages for PCBs in soils.

The evaluation of the need for and extent of response actions to address non-PCB constituents in soils will utilize a phased approach, which takes into account the implementation of response actions (if any) selected to address PCBs. That phased approach is described in subsequent sections of this SOW. In evaluating non-PCB constituents in soils, GE shall comply with the requirements described in those

sections and with the protocols described in Attachment F to this SOW (Protocols for the Evaluation of Non-PCB Constituents in Soil).

2.1.4 On-Plant Consolidation Areas

2.1.4.1 General

Certain materials generated during the performance of Removal Actions will be permanently consolidated at select locations within the GE Plant Area, subject to conditions set out in the CD and this SOW. Materials subject to such on-plant consolidation generally include soils, sediments, and existing surface materials (e.g., asphalt, other debris) that are excavated or otherwise removed as part of the Removal Actions to be performed for each RAA. Building demolition debris generated as part of building demolition activities under GE's separate Definitive Economic Development Agreement with the City of Pittsfield and PEDA and as part of such activities at Buildings 12, 12X, and 12Y (prior to Certificaiton of Completion of the Removal Action for the RAA containing those buildings) may also be included; however, the building demolition activities themselves, as opposed to the disposition of the building demolition debris, are not part of any Removal Actions subject to this SOW.

Specifically excluded from consolidation within the GE Plant Area are free liquids, free product, intact drums and capacitors, and other equipment that contains PCBs within its internal components, as well as asbestos-containing material required by applicable law to be removed from structures prior to demolition.

Based on a review of potential locations at the GE Plant Area that could potentially be used as on-plant consolidation areas, together with preliminary estimates of the on-plant consolidation capacities needed for the Removal Actions described in this SOW as well as for the Removal Actions for the Upper ½ Mile Reach and 1 ½ Mile Reach of the Housatonic River, the following locations have been identified as near-term or future on-plant consolidation areas:

- Hill 78 Consolidation Area;
- Building 71 Consolidation Area; and

C New York Avenue / Merrill Road Consolidation Area.

Figure 1-1 identifies the general locations of these areas. Further details regarding the selection of these locations for on-plant consolidation areas are provided in GE's *Conceptual Work Plan for On-Plant Consolidation Areas* (Conceptual Work Plan), which is included in Annex 1 to this SOW.

Of these three areas, two of them -- the Hill 78 Consolidation Area and the Building 71 Consolidation Area -- will be designed and developed in 1999. The third area -- i.e., the New York Avenue/Merrill Road Area -- has been subject to preliminary design activities and will be available for use as an on-plant consolidation area in the future should additional on-plant consolidation capacity (associated with the RAAs addressed in this SOW) be needed beyond that provided by the Hill 78 and Building 71 Consolidation Areas.

Plans for the design, construction, operation, closure, post-closure care, and groundwater monitoring of these on-plant consolidation areas are contained in GE's Conceptual Work Plan and/or *Detailed Work Plan for On-Plant Consolidation Areas*, both of which are included in Annex 1 to this SOW along with EPA's conditional approval letters for those work plans. GE shall construct, operate, and close these on-plant consolidation areas, and shall conduct future inspections and maintenance of these areas as well as groundwater monitoring associated with these areas, in accordance with the specifications set forth in those work plans, as conditionally approved by EPA.

These on-plant consolidation areas shall be available for the permanent consolidation of materials generated by GE as part of the Removal Actions Outside the River and the Upper ½ Mile Reach Removal Action, as well as materials from building demolition/redevelopment activities under the Definitive Economic Development Agreement , subject to the conditions and limitations set forth in the CD and this SOW. These consolidation areas shall also be available for materials generated by EPA as part of the 1 ½ Mile Reach Removal Action, subject to the same conditions and limitations noted above and also subject to the provisions of the Access and Services Agreement for the 1 ½ Mile Reach Removal Action, which is Appendix K to the CD.

2.1.4.2 Performance Standards for On-Plant Consolidation Areas

GE shall comply with and achieve the following Performance Standards for the construction, use, and final capping/restoration of the on-plant consolidation areas :

1. GE shall design and construct the on-plant consolidation areas in accordance with the Performance Standards set forth in this section, and the specifications set forth in the work plans and EPA conditional approval letters included in Annex 1.

2. The maximum horizontal extent and maximum height of materials to be placed in the on-plant consolidation areas shall not exceed the following criteria:

Consolidation Area	Approximate Horizontal Extent of Consolidation Area[1]	Approximate Maximum Elevation of Consolidation Area[2]
Hill 78 Consolidation Area	5.6 acres	1,050
Building 71 Consolidation Area	4.4 acres	1,048
New York Avenue / Merrill Road Area	1.6 acres	1,027

1. Area does not include adjacent ancillary facilities.

2. Elevation is based on the National Geodetic Vertical Datum (NGVD).

The specific design parameters regarding the consolidation areas are identified in the *Detailed Work Plan for the On-Plant Consolidation Areas* which is included in Annex 1.

3. GE may use the on-plant consolidation areas for the permanent consolidation of materials that are excavated or otherwise removed as part of the Removal Actions Outside the River and the Upper ½ Mile Reach Removal Action and for building demolition debris from redevelopment activities under the Definitive Economic Development Agreement, subject to the limitations in Performance Standards #5 and #6 below.

4. EPA may use the on-plant consolidation areas for the permanent consolidation of materials that are excavated or otherwise removed from the Housatonic River sediments and banks as part of the 1 ½ Mile Reach Removal Action, subject to the limitations in Performance Standards #5 and #6 below and subject to the provisions of the Access and Services Agreement for 1 ½ Mile Reach Removal Action, which is Appendix K to the CD.

5. Materials to be consolidated within the Hill 78 Consolidation Area shall be limited to materials that contain less than 50 ppm PCBs (as determined by an appropriate composite sampling technique or other techniques approved by EPA) and are not classified as a hazardous waste under regulations issued pursuant to the Resource Conservation and Recovery Act (RCRA). To assess the potential for materials to be classified as RCRA hazardous waste, an initial evaluation of the soils data will be conducted by dividing the soil sample results (expressed as mg/kg, or parts per million) by 20, changing the reporting units from mg/kg to micrograms per liter, and comparing the converted results to the allowable extract concentration limits associated with the Toxicity Characteristic Leaching Procedure (TCLP) procedure. Materials that are determined through this screening evaluation to have concentrations within allowable concentrations will be considered non-hazardous. If TCLP exceedances result from this screening exercise, more detailed evaluation (e.g., TCLP testing) will be conducted.

6. Materials to be placed in the on-plant consolidation areas shall not include free liquids, free product, intact drums and capacitors, other equipment that contains PCBs within its internal components, or asbestos-containing material required by applicable law to be removed from structures prior to demolition. Such materials, if any, shall be sent to an appropriate off-site facility for disposal. (Specific details regarding the off-site disposal of these materials will be addressed in the technical RD/RA submittals prepared for each Removal Action, as described in Section 3.0 of this SOW.)

7. GE shall operate the on-plant consolidation areas in accordance with the operations plan and requirements set forth in the Conceptual Work Plan and the *Detailed Work Plan*

for On-Plant Consolidation Areas, which are included in Annex 1, as such plans have been approved or conditionally approved by EPA.

8. Upon completion of use, GE shall cover the on-plant consolidation areas with an engineered landfill/consolidation area cap, which shall meet the general requirements for such a cap set forth in Attachment G to this SOW (Technical Requirements for Capping, Engineered Barriers, and Other Surface Covers). In addition, the closure of the on-plant consolidation areas shall meet the other closure requirements specified in the work plans included in Annex 1 to this SOW, as such plans have been approved or conditionally approved by EPA.

9. GE shall perform post-closure inspections and maintenance of the on-plant consolidation areas in accordance with Post-Removal Site Control Work Plans for such areas, to be submitted to EPA for approval.

10. GE shall conduct groundwater monitoring associated with the Hill 78 and Building 71 Consolidation Areas in accordance with the groundwater monitoring requirements in the work plans included in Annex 1 to this SOW as such work plans have been approved or conditionally approved by EPA. GE shall conduct groundwater monitoring associated with the New York Avenue/Merrill Road Consolidation Area (if constructed) in accordance with groundwater monitoring requirements to be established in subsequent work plans and EPA's approval or conditional approval thereof.

2.1.5 Consolidation of Building Demolition Debris in Building Foundations

In addition to using the on-plant consolidation areas for disposition of building demolition debris generated within the GE Plant Area, GE may use existing building foundations (e.g., the former Building 31 powerhouse) for the disposition of such building demolition debris. Such building foundations will not be considered to be on-plant consolidation areas. However, GE's use of existing building foundations for the disposition of demolition debris will incorporate certain of the Performance Standards related to on-plant consolidation (discussed in Section 2.1.4.2), and the Performance Standards for response actions within the GE Plant Area RAAs. Specifically, materials placed in building foundations shall not include free liquids, free product, intact drums and capacitors, other equipment that

contains PCBs within its internal components, or asbestos-containing material required by applicable law to be removed from structures prior to demolition. Moreover, the materials that are placed in an existing building foundation shall be covered with an engineered barrier (or equivalent) designed and constructed in general conformance with the requirements for engineered barriers in Attachment G of this SOW, although modifications may be necessary based on the specific application. The area subject to this barrier will then be removed from the averaging for the response action evaluations. In addition, GE shall conduct groundwater monitoring at wells located downgradient of these building foundations, as described in Attachment H to this SOW.

The specific building foundations subject to placement of demolition debris may include the following buildings: 2, 3C, 12, 12X, 12Y, and 31. Prior to the demolition of these buildings, GE will prepare a work plan or work plans for the building demolition and for the placement of the demolition debris in the building foundations. Since the building demolition itself is not part of the Removal Actions under this SOW, GE will (in addition to any other submittals that may be required by applicable law) submit the work plan(s) or portions thereof addressing building demolition to EPA solely for informational purposes and for any input or comments that EPA may have. However, the placement of building demolition debris in the building foundations is part of the Removal Actions under this SOW. Hence, GE shall submit the work plan(s) or portions thereof identifying the procedures and protocols for the placement of building demolition debris in the building foundations to EPA for review and approval. For the placement of building demolition debris in the foundations of Buidlings 12, 12X, and 12Y, such procedures and protocols shall include the requirement that all debris will be placed only below the existing ground surface elevation at the building involved. Further, in considering whether to approve the proposed procedures and protocols for the placement of building demolition debris in the foundations of these three buildings, EPA will give due consideration to, and may incorporate, any comments submitted by the City of Pittsfield or PEDA, taking into account surrounding land use, any redevelopment plans, and other relevant factors.

2.2 GE Plant Area

2.2.1 General

This section of the SOW sets forth the Performance Standards and other requirements that GE shall comply with in carrying out the Removal Actions at or related to the RAAs at the GE Plant Area,

excluding activities related to groundwater and subsurface NAPL (which are discussed in Section 2.7 of this SOW). These Removal Actions relate to the following RAAs, which were previously described in Section 1.2 of this SOW and are generally depicted on the figures listed below:

- 40s Complex (Figure 2-1);
- 30s Complex (Figure 2-1);
- 20s Complex (Figure 2-1);
- East Street Area 2 - South (Figure 2-1);
- East Street Area 2 - North (Figure 2-1);
- East Street Area 1 (Figure 2-1);
- Hill 78 Consolidation Area (Figure 2-2);
- Building 71 Consolidation Area (Figure 2-2);
- Hill 78 Area - Remaining Areas (Figure 2-2); and
- Unkamet Brook Area (Figure 2-3).

For the Removal Actions at or relating to the RAAs identified above, Performance Standards have been established. The Performance Standards for these Removal Actions, excluding activities relating to groundwater and NAPL, are set forth in Section 2.2.2, while other requirements relating to the Removal Actions at the GE Plant Area are discussed in Sections 2.2.3, 2.2.4, and 2.2.5. The Performance Standards and other requirements relating to groundwater and NAPL at the GE Plant Area are included in Section 2.7 below, Attachment H to this SOW (Groundwater/NAPL Monitoring, Assessment, and Response Programs), and (for specific source control activities) Annex 2 to this SOW. The Performance Standards and other requirements for natural resource restoration/habitat enhancement activities to be performed by GE, as part of the NRD settlement, in conjunction with response activities

at the GE Plant Area are referenced in Section 2.8 below and discussed in Attachment I to this SOW (Natural Resource Restoration/ Enhancement Activities).

To demonstrate compliance with and to achieve the Performance Standards established for the Removal Actions at the GE Plant Area, GE shall prepare, for each such Removal Action, a series of technical RD/RA deliverables for EPA review, comment, and approval. These submittals are further described in Section 3.0 of this SOW.

2.2.2 Performance Standards for Removal Actions

For the Removal Actions for the GE Plant Area, GE shall achieve the Performance Standards set forth in the CD for such Removal Actions and the following Performance Standards:

Grants of Environmental Restrictions and Easements

1. GE shall execute and record Grants of Environmental Restrictions and Easements (EREs) for the GE-owned portions of the GE Plant Area in accordance with Section XIII of the CD.

2. For those portions of the GE Plant Area not owned by GE (e.g., non-GE-owned properties within the Unkamet Brook floodplain), GE shall use best efforts (as defined in the CD) to obtain EREs in accordance with Section XIII of the CD (unless the Performance Standards for residential use, as described in Standard #8 in Section 2.3.2, are met at such a property). If an ERE cannot be obtained for such a non-GE-owned property, GE shall implement a Conditional Solution at such property, which shall achieve the Performance Standards for Conditional Solutions set forth below and in Paragraph 34 of the CD.

Response Actions for PCBs in Soils at Potential Future City Recreational Area

3. A potential future City recreational area may be constructed within East Street Area 2-South in the area generally depicted on Figure 2-1. In support of this construction, GE shall install a one-foot thick soil cover in this area in accordance with the general requirements for such covers provided in Attachment G to this SOW, and shall remove and replace soils in the next two feet below that cover as necessary to achieve a spatial average PCB concentration at or

below 15 ppm in that two-foot depth increment, using the spatial averaging protocols set forth in Attachment E to this SOW (Protocols for PCB Spatial Averaging).

The extent of response activities for depths greater than 3 feet within this area shall be determined as part of response actions for the overall averaging area in which this particular area is located (i.e., the Former Gas Plant/Scrap Yard Area, as identified in Attachment E) in accordance with Performance Standards #8 through #10 below, incorporating the anticipated performance of response activities for the top 3 feet of the potential future City recreational area as described above.

Response Actions for PCBs in Soils at 200-Foot-Wide Riparian Removal Zone

4. In an approximate 200-foot wide strip located along the north side of the river between the former Thermal Oxidizer location and the downstream edge of the GE Plant Area ("200-foot riparian removal zone"), as depicted on Figure 2-1, GE shall remove all concrete/asphalt/gravel surfaces, buildings/structures (except for the 64W oil/water separator), and underlying soil to a total depth of one foot. GE shall then replace that pavement/soil with a one-foot thick vegetative engineered barrier, as described in Attachment G to this SOW (Technical Requirements for Capping, Engineered Barriers, and Other Surface Covers), except that such barrier need not be installed in any discrete portion of this strip where the spatial average PCB concentrations do not exceed 10 ppm in the top foot, 15 ppm in the 1- to 3-foot depth increment, and 100 ppm in the top 15 feet, provided that the effectiveness of the barrier is not compromised by discontinuities in the barrier.

Response Actions for PCBs in Soils at GE-Owned Industrial Areas

5. The scope of response actions to address PCBs in soils at GE-owned "industrial areas" within the GE Plant Area (defined as those GE-owned portions of the GE Plant Area other than the on-plant consolidation areas and the areas described in Performance Standards #3 and #4 above and #11 through #15 below) shall be determined based on spatial average PCB soil concentrations for specific averaging areas identified in Attachment E to this SOW (Protocols for PCB Spatial Averaging). As described in Attachment E, 12 such averaging areas have been established based on current uses and conditions associated with such areas. GE shall utilize these

averaging areas for soils deeper than one foot; and it shall utilize these or alternate averaging areas for the top foot of soil in accordance with the following conditions:

a. GE may utilize any of the pre-established averaging areas for the top foot of soil provided that it ensures the removal of all soils in the top foot in unpaved portions of such area that contain PCB concentrations in excess of a not-to-exceed (NTE) concentration of 125 ppm; or

b. GE may establish alternate averaging areas for the top foot of soil if such areas do not exceed 1.0 acre in size (without the need to achieve an NTE concentration); or

c. GE may propose to EPA for approval the use of any of the pre-established averaging areas or an alternate averaging area for the top foot of soil without the need to achieve an NTE concentration , and may utilize such area upon EPA approval (which may be conditioned on the inclusion in the ERE for such area of additional restrictions on construction, as described in Appendix L to the CD).

In addition, as further described in Attachment E, the pre-established averaging areas identified in Attachment E are subject to modification and/or the addition of new averaging areas, upon EPA approval, in the event that either the predominant use of a particular area changes or there is some other change at the GE Plant Area that creates a distinct exposure area within an identified averaging area prior to the recordation of an ERE covering such area.

6. For each such GE-owned industrial averaging area, GE shall initially calculate a spatial average PCB concentration for the 0- to 1-foot depth increment for the unpaved portion of the averaging area and for the overall averaging area (considering both paved and unpaved areas). In addition, for the overall averaging area, GE shall calculate a spatial average PCB concentration for the 1- to 6-foot depth increment. In calculating the spatial average PCB concentration for the 1- to 6-foot depth increment for the East Street Area 2-South averaging area that contains the potential City recreational area, GE shall take into account the response actions to be undertaken in accordance with Performance Standard #3 above.

7. GE shall conduct the following response actions for the top one foot of soil in each GE-owned industrial averaging area:

a. For any unpaved portion of such an averaging area that is located within the 100-year floodplain of the Housatonic River or Unkamet Brook (as generally depicted on Figures 2-1 and 2-3) and where the spatial average PCB concentration in the top foot exceeds 25 ppm, GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration of 25 ppm or below in the top foot. (In addition, if GE selected the option described in Standard #5.a, GE shall remove all soils containing PCB concentrations greater than 125 ppm from the top foot of the unpaved portion of the averaging area.)

b. For any unpaved portion of such an averaging area that is located outside the 100-year floodplain and where the spatial average PCB concentration in the top foot exceeds 25 ppm, GE shall either remove and replace soils or install a soil cover in accordance with the specifications for soil covers described in Attachment G to this SOW (Technical Requirements for Capping, Engineered Barriers, and Other Surface Covers) as necessary to achieve a spatial average PCB concentration of 25 ppm or below in the top foot.

c. For any averaging area (whether located within or outside the 100-year floodplain) where the spatial average PCB concentration in the top foot exceeds 25 ppm in the entire area (paved and unpaved portions combined), GE shall recalculate the spatial average PCB concentration for the top foot in that entire averaging area after incorporating the anticipated performance of the response actions described in Standard #7.a or #7.b, as applicable. If that recalculated spatial average PCB concentration still exceeds 25 ppm, GE shall maintain and enhance the existing pavement/concrete surfaces in those paved areas determined to cause the exceedance of the 25 ppm spatial average concentration for the top foot in the entire area. Such enhancements will be in accordance with the specifications described for pavement enhancement in Attachment G to this SOW. Where such pavement enhancement is undertaken within the 100-year floodplain of the Housatonic River or Unkamet Brook (as generally depicted on Figures 2-1 and 2-3), GE shall provide Flood Storage

Compensation within the same general area, but not necessarily in the specific location of the pavement enhancement.

8. For GE-owned industrial averaging area where the spatial average PCB concentration in the 1- to 6-foot depth increment exceeds 200 ppm, GE shall perform the following response actions: In any such area located within the 100-year floodplain of the Housatonic River or Unkamet Brook (as generally depicted on Figures 2-1 and 2-3), GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration of 200 ppm or below in the 1- to 6-foot depth increment. In any such area located outside that 100-year floodplain, GE shall undertake a combination of removal and replacement of soils in unpaved areas and/or enhancement of existing pavement/concrete surfaces in paved areas (in accordance with the specifications for pavement enhancement in Attachment G) as necessary to ensure that the PCB concentrations causing the spatial average to exceed 200 ppm are removed or covered by enhanced pavement.

9. For any GE-owned industrial averaging areas (as well the areas described in Performance Standards #3, #4, and #15) where utilities potentially subject to emergency repair requirements (e.g., water, gas, sewer, electricity, communication, and stormwater) are present and the spatial average PCB concentration in the corresponding utility corridor exceeds 200 ppm in the 1- to 6-foot depth increment, GE shall evaluate whether any additional response actions are necessary. GE shall submit the results of that evaluation, together with a proposal for such precautions or actions if needed, to EPA for review and approval. In addition, in the event that a new subgrade utility is installed in the future, or if an existing subgrade utility is repaired or replaced in the future, GE shall ensure that the spatial average PCB concentration of the backfill materials is at or below 25 ppm.

10. After incorporating the anticipated performance of response actions in accordance with the foregoing Performance Standards, GE shall calculate, for each GE-owned industrial averaging area, the spatial average PCB concentration for the 0- to 15-foot depth increment. For any such averaging area where the spatial average PCB concentration exceeds 100 ppm in the 0- to 15-foot depth increment (after incorporating the anticipated performance of response actions, if any, for other depth increments), GE shall install an engineered barrier either over the soil (in currently unpaved areas) or over the pavement (in currently paved areas) in accordance with

the specifications for engineered barriers in Attachment G to this SOW. In such areas within the 100-year floodplain, GE shall provide Flood Storage Compensation within the same general area, but such compensation need not be obtained in the specific locations subject to the barriers, except in the approximate 200-foot-wide riparian strip described in Performance Standards #4 and #5 above (if an engineered barrier should be required in that strip).

Additional Response Actions for PCBs in Unkamet Brook Area

11. For the former interior landfill at the Unkamet Brook Area, GE shall install an impermeable cap system as follows: In the unpaved portion of the former interior landfill, GE shall install an engineered landfill cap in accordance with the requirements described for landfill caps in Attachment G to this SOW (Technical Requirements for Capping, Engineered Barriers, and Other Surface Covers). GE shall then plant vegetation on the surface of the cap as provided in Section 2.8 and Attachment I (Natural Resource Restoration/Enhancement Activities) to this SOW. In the currently paved portion of the former interior landfill area, GE shall install an asphalt engineered barrier, in accordance with the specifications described in Attachment G for such barriers.

12. To facilitate response actions for the former interior landfill, GE shall reroute an approximate 600-foot section of Unkamet Brook currently located within the former landfill limits (as generally depicted on Figure 2-3) to flow via its approximate former channel, which makes a gradual meander to the east beyond the eastern edge of the former landfill.

13. For the portion of Unkamet Brook (following rerouting) located between Dalton Avenue and the Housatonic River, GE shall calculate existing exposure point concentrations (EPCs) for PCBs in the top one foot of sediments for three reaches of the brook as identified in Attachment E to this SOW (Protocols for PCB Spatial Averaging). For each such reach of the brook, the EPC shall be either: (a) the spatial average PCB concentration, calculated using the protocols contained in Attachment E, provided that PCB data are available for transects located along each reach at an appropriate spacing, with a minimum spacing of 25 feet; or (b) the 95% Upper Confidence Limit on the arithmetic mean (95% UCL) of the PCB data (or the maximum PCB concentration if the 95% UCL exceeds the maximum). If the PCB EPC exceeds 1 ppm in any

reach, GE shall remove and replace brook sediments from the top one foot as necessary to achieve a PCB EPC of 1 ppm in the top foot of sediments in each reach.

14. For two inundated (palustrine/emergent) wetlands that are not subject to the barrier/cap for the former interior landfill, as generally depicted on Figure 2-3, GE shall calculate the existing EPC for PCBs in the top one foot of soil in each such inundated wetland. For each such wetland area, the EPC shall be either: (a) the spatial average PCB concentration, calculated using the protocols contained in Attachment E, provided that PCB data are available from an appropriate sampling grid, with a minimum 25-foot sample grid spacing within such wetland area; or (b) the 95% UCL of the PCB data (or maximum PCB concentration if the 95% UCL exceeds the maximum). If the PCB EPC exceeds 1 ppm in such a wetland area, GE shall either remove and replace sediments or provide a soil surface cover to achieve a 1 ppm PCB EPC in the top one foot of each inundated wetland. The loss of any wetlands shall be mitigated through the payment that GE will make pursuant to Paragraph 114.b of the CD.

15. For the remaining non-industrial area owned by GE to the east of the former landfill area, GE shall initially calculate spatial average PCB concentrations for the 0- to 1-foot and 1- to 3-foot depth increments. If the spatial average PCB concentration exceeds 10 ppm in the top foot or 15 ppm in the 1- to 3-foot depth, GE shall remove and replace soils as necessary to achieve spatial average PCB concentrations at or below those concentration levels for the increments specified. GE shall then calculate the spatial average PCB concentration in the top 15 feet (after incorporating the anticipated performance of any response actions for the 0- to 1-foot and 1- to 3-foot depth increments). If the spatial average PCB concentration exceeds 100 ppm, GE shall install an engineered barrier in accordance with the specifications for such barriers in Attachment G to this SOW.

16. GE shall evaluate potential changes to the current flood storage capacity of the Unkamet Brook floodplain due to the performance of the response actions described in Performance Standards #11 through #15. GE shall, to the extent practicable, provide Flood Storage Compensation in the same general area. However, to achieve such compensation, GE shall not be required to remove soils from the interior landfill prior to installation of the barrier/cap, because EPA has determined that such removal is not practicable.

17. For non-GE-owned commercial/industrial or recreational properties located within the Unkamet Brook Area (as generally depicted on Figure 2-3), as well as the non-GE-owned portion of the commercial/industrial property (Parcel K10-14-1) located within East Street Area 1-North (as generally depicted on Figure 2-1), the scope of response actions to address PCBs in soils shall be determined based on spatial averaging of PCB concentrations in certain averaging areas, using the spatial averaging procedures described in Attachment E to this SOW. To determine the averaging areas for the top foot of soil at such properties, GE shall use one of the following options at each separately owned property:

a. GE may consider the entire property as an averaging area provided that, in addition to achieving the spatial average PCB Performance Standards described below, GE ensures the removal of all soils in the top foot in unpaved portions of the property that contain PCB concentrations in excess of the following NTE concentrations : 125 ppm for a commercial/industrial property, or 50 ppm for a recreational property; or

b. GE may establish averaging areas at the property which do not exceed 0.5 acre in size; or

c. GE may propose other specific averaging area(s) for the property to EPA for approval.

The particular option(s) selected by GE for averaging areas in the top foot at such properties shall be presented in the Conceptual RD/RA Work Plan for the Removal Action that will address such properties. For averaging that includes soils deeper than one foot, the averaging area for each such non-GE-owned property shall correspond to the boundaries of such property, as described in Attachment E to this SOW.

18. For commercial/industrial properties within the Unkamet Brook Area that are not owned by GE (as depicted on Figure 2-3), as well as the non-GE-owned portion of the commercial/industrial property (Parcel K10-14-1) within East Street Area 1-North, GE shall perform the following response actions:

a. If an ERE is established for such a property in accordance with Performance Standard #2 above, response actions shall consist of the following:

i. GE shall calculate the existing spatial average PCB concentration for the 0- to 1-foot depth increment for (a) the unpaved portion of each averaging area, and (b) the paved portion of each averaging area. If the spatial average PCB concentration in the unpaved portion of such area exceeds 25 ppm, GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration of 25 ppm or below in the top foot. (In addition, if GE selected the option described in Standard #17.a, GE shall remove all soils containing PCB concentrations greater than 125 ppm from the top foot of the unpaved portion of the property.) If the spatial average PCB concentration in the paved portion of such area exceeds 25 ppm, GE shall either remove and replace soils as necessary to achieve that spatial average concentration in the top foot or enhance the existing concrete/asphalt surfaces in such portion in accordance with the specifications for pavement enhancement in Attachment G to this SOW.

ii. GE shall also calculate the existing spatial average PCB concentration for the 1- to 6-foot depth increment at each such property (considering paved and unpaved portions together). If that spatial average PCB concentration exceeds 200 ppm, GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration of 200 ppm or below in the 1- to 6-foot depth increment.

iii. GE shall calculate the spatial average PCB concentration for the 0- to 15-foot depth increment at the property (incorporating the anticipated performance of any response actions for the 0- to 1-foot and 1- to 6-foot depth increments). If that spatial average PCB concentration exceeds 100 ppm, GE shall install an engineered barrier in those areas determined to cause the exceedance of the 100 ppm spatial average concentration. Such enhancements will be in accordance with the specifications for engineered barriers in Attachment G to this SOW.

iv. For areas subject to pavement enhancement or engineered barriers, GE shall provide Flood Storage Compensation in the same general area but not

necessarily in specific locations of the pavement enhancement or engineered barrier.

b. If an ERE cannot be established for such a property, GE shall initially calculate an existing spatial average PCB concentration for the 0- to 1-foot depth increment at each averaging area of the property. If the spatial average PCB concentration exceeds 25 ppm in this depth increment, GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration at or below 25 ppm. (In addition, if GE selected the option described in Standard #17.a, GE shall remove all soils containing PCB concentrations greater than 125 ppm from the top foot in unpaved portions of such property.) GE shall then calculate the spatial average PCB concentration for the 0- to 3-foot depth increment at each averaging area (incorporating the anticipated performance of any response actions for the 0- to 1-foot depth increment). If that spatial average exceeds 25 ppm, GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration at or below 25 ppm in the 0- to 3-foot depth increment. GE shall then calculate the spatial average PCB concentration for the 1- to 6-foot depth increment at the property (incorporating the anticipated performance of any response actions for the 0- to 1- and 0- to 3-foot depth increments). If the resulting spatial average calculations exceeds 200 ppm in the 1- to 6-foot depth increment, GE shall remove and replace soils as necessary to achieve that spatial average concentration. Finally, GE shall calculate the spatial average PCB concentration for the 0- to 15-foot depth increment at the property (incorporating the anticipated performance of any response actions for the uppermost 6 feet). If that spatial average PCB concentration exceeds 100 ppm, GE shall install an engineered barrier in accordance with the specifications for engineered barriers in Attachment G to this SOW, and shall provide Flood Storage Compensation in the same general area but not necessarily in specific location of the engineered barrier. These actions shall be deemed a Conditional Solution under the CD, and GE shall also meet the other requirements set forth in Paragraphs 34-38 of the CD for Conditional Solutions.

c. For properties where utilities potentially subject to emergency repair requirements (e.g., water, gas, sewer, electricity, communication, and stormwater) are present and the spatial average PCB concentration for those soils present in the utility corridor that may

need to be removed during an emergency repair exceeds 200 ppm, GE shall evaluate whether any additional response actions are necessary. GE shall submit that evaluation, together with a proposal for such actions if needed, to EPA for review and approval. In addition, in the event that a new sub-grade utility is installed at such a property, or if an existing subgrade utility is repaired or replaced in the future, GE shall ensure that the spatial average PCB concentration of the backfill materials is at or below 25 ppm.

19. For recreational areas within the Unkamet Brook Area that are not owned by GE, as depicted on Figure 2-3, GE shall perform the following response actions:

a. If an ERE is established for such a property in accordance with Performance Standard #2 above, GE shall initially calculate existing spatial average PCB concentrations for the 0- to 1-foot and 1- to 3-foot depth increments at each averaging area. If the spatial average PCB concentration exceeds 10 ppm in the top foot or 15 ppm in the 1- to 3-foot depth in such area, GE shall remove and replace soils as necessary to achieve spatial average PCB concentrations at or below those levels for the increments specified. (In addition, if GE selected the option described in Standard #17.a, GE shall remove all soils containing PCB concentrations greater than 50 ppm from the top foot in unpaved portions of the property.) GE shall then calculate the spatial average PCB concentration for the 0- to 15-foot depth increment at the property (incorporating the anticipated performance of any response actions for the uppermost 3 feet). If the resulting spatial average PCB concentration for the 0- to 15-foot depth increment exceeds 100 ppm, GE shall install an engineered barrier in accordance with the specifications for such barriers in Attachment G to this SOW, and shall provide Flood Storage Compensation in the same general area, but not necessarily in the specific location of the engineered barrier.

b. If an ERE cannot be established for such a property, GE shall initially calculate the existing spatial average PCB concentration for the 0- to 1-foot depth increment at each averaging area. If the spatial average PCB concentration exceeds 10 ppm in this increment, GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration at or below 10 ppm in such area. (In addition, if GE selected the option described in Standard #17.a, GE shall remove all soils containing PCB

concentrations greater than 50 ppm from the top foot in unpaved portions of the property.) GE shall then calculate the spatial average PCB concentration for the 0- to 3-foot depth increment at each averaging area (incorporating the anticipated performance of any response actions for the 0- to 1-foot depth increment). If that spatial average exceeds 10 ppm, GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration at or below 10 ppm for the 0- to 3-foot depth increment in such area. GE shall then calculate the spatial average PCB concentration for the 0- to 15-foot depth increment at the property (incorporating the anticipated performance of any response actions for the uppermost 3 feet). If the resulting spatial average PCB concentration for the 0- to 15-foot depth increment exceeds 100 ppm, GE shall install an engineered barrier in accordance with the specifications for such barriers in Attachment G to this SOW, and shall provide Flood Storage Compensation in the same general area, but not necessarily in the specific location of the engineered barrier. These actions shall be deemed a Conditional Solution under the CD, and GE shall also meet the other requirements set forth in Paragraphs 34-38 of the CD for Conditional Solutions.

c. For properties where utilities potentially subject to emergency repair requirements (e.g., water, gas, sewer, electricity, communication, and stormwater) are present and the spatial average PCB concentration for those soils present in the utility corridor that may need to be removed during an emergency repair exceeds 200 ppm, GE shall evaluate whether any additional response actions are necessary. GE shall submit that evaluation, together with a proposal for such actions if needed, to EPA for review and approval. In addition, in the event that a new sub-grade utility is installed in such area, or if an existing subgrade utility is repaired of replaced in the future, GE shall ensure that the spatial average PCB concentration of the backfill materials is at or below 10 ppm in the top 3 feet and 25 ppm for soils at greater depths.

Response Actions for On-Plant Consolidation Areas

20. Following use of the on-plant consolidation areas (as provided in Section 2.1.4 of this SOW), GE shall install an engineered landfill/consolidation area cap in accordance with the specifications for such caps described in Attachment G to this SOW and the closure

requirements set forth in the on-plant consolidation area work plans and EPA conditional approval letters contained in Annex 1. In addition, GE shall plant vegetation on the surface of the cap at the Hill 78 Consolidation Area as provided in Section 2.8 and Attachment I (Natural Resource Restoration/Enhancement Activities) to this SOW.

Response Actions for Non-PCB Constituents in Soil

21. To address the presence of Appendix IX+3 constituents other than PCBs in soils at the GE Plant Area, GE shall conduct an evaluation of such constituents for each of the averaging areas at the GE Plant Area identified in Attachment E to this SOW or otherwise specified above. This evaluation shall be conducted in accordance with the protocols described in Attachment F to this SOW (Protocols for the Evaluation of Non-PCB Constituents in Soil) and shall comply with the following process-related Performance Standards:

    a. First, GE shall review the data qualifiers on the Appendix IX+3 data to eliminate analytical laboratory results that indicate constituent occurrence as a result of laboratory interferences or contamination (as indicated by the laboratory blank data).

    b. Second, GE shall screen the remaining data to take into account the proposed response actions to address PCBs as specified in Performance Standards #3 through #10, #15, #18, and #19. Specifically, sample results from soil that will be removed to address PCBs will be eliminated from consideration, and it will be assumed that such soil will be replaced with an equal volume of clean soil containing concentrations of organic constituents at one-half the detection limit and concentrations of inorganic constituents consistent with those detected in representative samples of the backfill material. Similar concentrations for organic and inorganic constituents will be assumed to be present in any soil cover used. For areas where an engineered barrier or pavement enhancement will be installed to address PCBs, the Appendix IX+3 sample results from soil underlying such barrier or enhanced pavement will be eliminated from consideration, and averages will be recalculated for the portion(s) of the areas not subject to such barrier or pavement enhancement (subject to potential modification, if necessary, based on the nature and concentration of volatile constituents for which such barriers/pavement may not provide effective containment).

c. Third, GE shall further screen the remaining data by making the following comparisons for the sample results that were not eliminated in Step 2:

i. For constituents other than dioxins/furans, GE shall compare the maximum concentration of each detected constituent to the EPA Region 9 Preliminary Remediation Goals (PRGs) (set forth in Exhibit F-1 to Attachment F) for such constituent in soil, using the industrial PRG for commercial/industrial areas and the residential PRG for recreational areas. For polycyclic aromatic hydrocarbons (PAHs) for which Region 9 PRGs do not exist, GE shall use the Region 9 PRGs for benzo(a)pyrene for carcinogenic PAHs and the Region 9 PRGs for naphthalene for noncarcinogenic PAHs. For other constituents for which Region 9 PRGs do not exist, GE may propose screening concentrations based on either the Region 9 PRGs for chemicals with similar characteristics or on other appropriate risk-based calculations, and upon EPA approval, may use such screening concentrations in this step. (The Region 9 PRGs, together with the PRGs specified above for carcinogenic and noncarcinogenic PAHs for which there are no Region 9 PRGs and any additional screening concentrations proposed by GE and approved by EPA, are hereinafter referred to jointly as "Screening PRGs.") Any constituent whose maximum concentration is at or below the applicable Screening PRGs will be eliminated from further consideration. The remaining constituents will be subject to further evaluation.

ii. For dioxins/furans, GE shall calculate for each sample a total Toxicity Equivalent (TEQ) concentration, using the consensus Toxicity Equivalency Factors (TEFs) published by the World Health Organization (Van den Berg et al., *Environ. Health Perspectives*, vol. 106, no. 12, Dec. 1998). GE shall then compare, for the relevant averaging area and depth increment, either the maximum TEQ concentration or the 95% UCL on the mean of TEQ concentrations, whichever is lower, to the applicable PRG established by EPA for dioxin TEQs. These PRGs are: for commercial/industrial areas, 5 ppb in the top foot and 20 ppb in subsurface soil; and for recreational areas, 1 ppb in the top foot and 1.5 ppb in the 1- to 3-foot depth interval. If the maximum

or 95% UCL TEQ concentration is less than the applicable PRG, no further response actions will be necessary to address dioxins/furans. If the maximum or 95% UCL TEQ concentration exceeds the applicable PRG, no further evaluation will be made, and GE shall develop Response Actions for EPA review and approval to achieve the dioxin PRG.

d. Fourth, for each constituent (other than dioxins/furans) with a maximum concentration that exceeds the applicable Screening PRGs, GE shall compare the data set for that constituent for the particular averaging area (after taking into account the PCB-related response actions specified in Performance Standards #3 through #10, #15, #18, and #19) with the background data set for that constituent, using either an appropriate statistical method or summary statistics (as described in the Massachusetts DEP's *Guidance for Disposal Site Risk Characterization*, 1995). For such comparisons, GE shall utilize site-specific background data sets approved by EPA for use as background, which may include, at a minimum, soil data from Housatonic River floodplain samples collected upstream of releases from the GE Plant Area and soil data from GE's off-site residential property program (excluding samples with detectable PCB concentrations and samples containing visible evidence of non-native fill). GE shall propose separate background data sets for surface soil and subsurface soil, and may propose separate background data sets for commercial/industrial areas and residential/recreational areas. Any constituent for which the averaging area data set is consistent with the background data set will be eliminated from further consideration. Any constituent for which the averaging area data set is not consistent with the background data set will be subject to further evaluation. (Note: This step may be omitted if all constituents remaining after the screening described in Standard #21.c.i can be eliminated through the evaluation described in Standard #21.e below.)

e. Fifth, for each constituent (other than dioxins/furans) that is not eliminated in the prior steps, GE shall calculate an average concentration for the averaging area (taking into account the PCB-related response actions, as specified in Performance Standards #3 through #10, #15, #18, and #19, and shall compare that average concentration to the applicable MCP Method 1 soil standard (S-1, S-2, or S-3). If there is no existing Method 1 soil standard for such a constituent, GE may derive a Method 2 standard,

using the MCP procedures for doing so, and compare the average concentration to that standard. In making these comparisons, GE shall calculate separate average concentrations for surface soil and subsurface soil (using depth increments consistent with those evaluated for PCBs), and compare those average concentrations separately to applicable Method 1 (or 2) standards. Further, in determining the applicable set of Method 1 (or 2) standards (i.e., S-1, S-2, or S-3), GE shall follow the MCP criteria for categorizing soil, and may take into account the EREs or Conditional Solutions proposed for the area in question. If all constituents evaluated in this step have average concentrations at or below the applicable Method 1 (or 2) standards, no further response actions will be necessary to address such constituents. If any such constituent(s) have average concentrations exceeding the applicable Method 1 (or 2) standards, then GE shall either:

i. Develop response actions sufficient to reduce the average concentrations of such constituent(s) to the Method 1 (or 2) standards (or to achieve Performance Standards based on the Screening PRGs or background levels, as described in Standard #22 below); or

ii. Conduct an area-specific risk evaluation, as described in Standard #21.f below.

f. Sixth, if an area-specific risk evaluation will be conducted, GE shall perform that evaluation for all constituents that were retained for evaluation prior to the step described in Standard #21.e above. In such an evaluation, GE shall calculate the cumulative Excess Lifetime Cancer Risk (ELCR) and non-cancer risk for all such constituents (excluding PCBs and dioxins/furans), based on the average concentrations of such constituents and the same uses for the area and depth increment in question (e.g., commercial/industrial worker, utility worker, recreational user) that were assumed in developing the applicable PCB Performance Standards for such area and depth increment. In such an evaluation, GE shall apply the same exposure assumptions used in Attachment A to EPA's Action Memorandum for Removal Actions Outside the River (Appendix D to the CD) to support the PCB Performance Standards for such area and depth increment, unless GE proposes and provides an adequate justification

for alternate exposure assumptions for the following parameters for the specific area in question and EPA approves such alternate assumptions: (i) exposure frequency (if based on site-specific land conditions for the area in question); (ii) exposed skin surface area (if based on site-specific land conditions for the area in question); (iii) dermal adherence factor; (iv) soil ingestion rate; (v) oral absorption factor; and (vi) dermal absorption factor.

If the resulting cumulative ELCR for the area (excluding PCBs and dioxins/furans) does not exceed 1×10^{-5} (after rounding) and the non-cancer Hazard Index (excluding PCBs and dioxins/furans) does not exceed 1 (after rounding), no further response actions will be necessary to address these residual Appendix IX+3 constituents. Otherwise, further response actions will be necessary.

22. If the evaluation described in Standard #21 indicates the need for further response actions to address non-PCB constituents, GE shall develop, for EPA review and approval, specific Performance Standards for such response actions. Such Performance Standards shall be based on achieving the following, after taking into account the PCB-related response actions specified in Performance Standards #3 through #10, #15, #18, and #19:

a. For dioxin/furan TEQs, either maximum or 95% UCL TEQ concentrations that do not exceed the EPA dioxin PRGs described in Standard #21.c.ii; and

b. For other constituents, any combination of the following: (i) maximum concentrations of individual constituents that do not exceed the applicable Screening PRGs; (ii) concentrations of individual constituents that are consistent with background levels (using an appropriate statistical technique or summary statistics); or (iii) for the remaining constituents (if any), either (A) average concentrations that do not exceed the applicable Method 1 (or 2) soil standards, or (B) cumulative risk levels that do not exceed (after rounding) an ELCR of 1×10^{-5} and a non-cancer Hazard Index of 1.

GE shall then propose and, upon EPA approval, undertake additional response actions as necessary to achieve those Performance Standards. The specific types of response actions to be taken to achieve such Performance Standards (e.g., soil removal, capping, pavement

enhancement) shall be the same as those established by the Performance Standards for PCBs at the area in question, subject to potential modification if necessary based on the nature and concentration of volatile constituents.

2.2.3 Additional Pre-Design Field Investigations

Prior to the performance of detailed RD/RA activities, GE shall conduct pre-design activities for each RAA at the GE Plant Area. Such activities will be performed to further characterize existing site conditions, satisfy certain investigation-related requirements presented in the CD and this SOW, support evaluations concerning the scope of the response actions to achieve the Performance Standards set forth above, and serve as the basis for the development of RD/RA activities. The scope of the pre-design investigations will vary for each RAA and will consider the specific Performance Standards for the Removal Action in question and the type and extent of information that is already available for each RAA.

For each Removal Action, a Pre-Design Work Plan shall be prepared pursuant to the requirements of Section 3.0 of this SOW. That plan will include a summary of available site information to support future RD/RA activities (including a data quality assessment of the historical data and a proposal as to which data are of adequate quality to be used), and an assessment of additional information needs to address the Performance Standards established for each Removal Action. To determine the scope of the necessary additional soil sampling, GE shall initially consider the existing soils data available for each RAA, and specifically the horizontal and vertical distribution of the data set. Where necessary based on this review, and as approved by EPA, GE shall perform additional soil sampling in accordance with Attachment D to this SOW (Protocols for Additional Soil Investigations), which describes the procedures by which additional sampling locations will be selected. The frequency of soil sampling is dependent on the type of existing surface within the various RAAs and will not include current buildings or locations of former buildings where the building foundation remains.

For areas within the GE Plant Area other than the potential future City recreational area, the 200-foot-wide riparian removal zone, the non-industrial area east of the Unkamet Brook landfill, and the non-GE-owned properties in the Unkamet Brook Area floodplain, GE shall collect and analyze soil samples as follows:

- For unpaved areas (excluding areas within the Hill 78 and Building 71 Consolidation Areas and the former Unkamet Brook interior landfill), soil samples will be collected within an approximate 100-foot grid sampling pattern (taking into account the useable existing data).

C For paved areas (excluding the paved portion of the former Unkamet Brook interior landfill), sampling will be conducted with an emphasis placed on those areas where limited data currently exist. Soil sampling will occur at approximately 170 locations (approximately 2 locations per acre).

At each of these sample locations, soil samples will be collected, to the extent practicable given the conditions in the area, from the 0- to 1-foot, 1- to 6-foot, and 6- to 15-foot depth intervals. These samples will be analyzed for PCBs. In addition, certain soil samples will be analyzed for other Appendix IX+3 constituents, selected in accordance with the protocols described in Attachment D to this SOW (Protocols for Additional Soil Investigations).

For the potential future City recreational area, the non-industrial area east of the Unkamet Brook landfill, the non-GE-owned properties in the Unkamet Brook floodplain, and possibly those discrete portions of the 200-foot riparian removal zone described in Performance Standard #4 (where a vegetative engineered barrier may not need to be installed), GE shall collect surface soil samples (from the 0- to 1-foot depth increment) on an approximate 50-foot grid sampling pattern, and shall collect subsurface soil samples on an approximate 100-foot grid sampling pattern from the 1- to 3-foot, 3- to 6-foot, and 6- to 15-foot depth increments. These samples will be analyzed for PCBs. In addition, certain soil samples will be analyzed for other Appendix IX+3 constituents, in accordance with the protocols described in Attachment D to this SOW.

For the sediments and inundated wetland soils within the Unkamet Brook Area, GE shall collect samples from the top one foot of sediments/soils. The spatial distribution of the sampling locations shall be appropriate to support subsequent response action evaluations, as described in Performance Standards # 13 and #14. However, the minimum distribution of sampling locations shall be (a) sampling transects located at 25-foot sampling intervals for sediments, and (b) sampling on a 25-foot sampling grid for wetland soils.

2.2.4 Design and Implementation of Removal Actions

The Removal Actions for the RAAs associated with the GE Plant Area shall be based on the Performance Standards identified in the CD and this SOW, and shall incorporate information available from prior investigations (to the extent such historical data are determined to be of adequate quality for usage) and the pre-design activities described above. For PCBs in soils, such available information will be utilized to estimate spatial average PCB concentrations under current conditions for several designated areas within each RAA. The results of these calculations will serve as the basis for determining the scope of response actions for the GE Plant Area RAAs. Spatial average PCB concentrations will be calculated for the areas listed in Attachment E to this SOW (Protocols for PCB Spatial Averaging) and using the protocols presented therein.

Based upon this spatial averaging, GE shall evaluate the scope of response actions necessary to meet the PCB-related Performance Standards set out in Section 2.2.2. GE shall also evaluate the need for and extent of additional response actions to address non-PCB constituents in accordance with the Performance Standards relating to such constituents. GE shall report the results of these evaluations in the Conceptual RD/RA Work Plan, as described in Section 3.3 below. That work plan will also present the results of other pre-design evaluations -- e.g., an assessment of the need for and type of additional response actions to address groundwater and/or NAPL; pre-design evaluations associated with rerouting Unkamet Brook (including evaluation of brook hydraulics, wetlands and habitat assessments, hydraulic modeling, etc.); and the like.

Following EPA approval of the Conceptual RD/RA Work Plan and subsequently the RD/RA Work Plan for each Removal Action, as provided in Section 3.0, GE shall implement the required Removal Action to achieve the Performance Standards set out in Section 2.2.2. All excavated material will be placed in the on-plant consolidation areas, subject to the conditions and limitations set out in Section 2.1.4. Where soil replacement is called for by the Performance Standards, GE shall utilize backfill material (e.g., gravel, loam, etc.) that is appropriate for the given application and has been approved by the EPA based on representative sampling results provided by GE.

Restoration of areas affected by response activities shall, at a minimum, restore such areas to existing conditions, unless otherwise proposed in the RD/RA work plans and approved by the EPA, and shall be performed to minimize future and permanent disturbances to both wetland and non-wetland areas. Such

measures will be incorporated into response design activities and will be presented in the technical RD/RA deliverables for each Removal Action. Restoration activities for response actions occurring within resource areas (e.g., floodplain areas) regulated under the Massachusetts Wetlands Protection Act (310 CMR 10.0000) shall, to the maximum extent practicable, incorporate measures consistent with that Act (e.g., re-establishment of existing surface conditions, provision of flood storage compensation, etc.). Such measures will be developed based on a pre-design site assessment which will evaluate the existing site conditions prior to performing the Removal Actions. This assessment will evaluate conditions such as topography, ground cover and vegetation, general soil conditions, and habitat viability. Details regarding such restoration activities will be presented in the technical RD/RA deliverables prepared for each Removal Action.

2.2.5 Post-Removal Site Control Activities

After implementation of each of the foregoing Removal Actions at the GE Plant Area, GE shall perform Post-Removal Site Control activities. These activities shall include, as appropriate, the inspection, maintenance, and repair (as necessary) of the engineered barriers, landfill caps, and other surface covers installed at the GE Plant Area, as described in Attachment J to this SOW (Future Inspection and Maintenance Activities). Additional details regarding the specific future inspection and maintenance activities associated with each Removal Action at the GE Plant Area will be identified in the RD/RA deliverables for that Removal Action.

In addition, GE will continue its current systems for NAPL containment and recovery and groundwater treatment, and will conduct groundwater/NAPL monitoring, assessment, and response activities, as described in Section 2.7 of this SOW and Attachment H to this SOW (Groundwater/NAPL Monitoring, Assessment, and Response Programs).

2.3 Former Oxbow Areas

2.3.1 General

This section of the SOW sets forth the Performance Standards and other requirements that GE shall comply with in carrying out the Removal Actions at or related to the RAAs associated with the Former Oxbow Areas, excluding activities related to groundwater and subsurface NAPLs (which are discussed

in Section 2.7 below). These Removal Actions relate to the following RAAs, which were previously described in Section 1.2 of this SOW and generally depicted on the figures listed below:

- Former Oxbow Areas A and C (Figure 2-4);
- Lyman Street Area (Figure 2-4);
- Newell Street Area II (Figure 2-4);
- Newell Street Area I (Figure 2-4); and
- Former Oxbow Areas J and K (Figure 2-5).

With the exception of the Former Oxbow Areas J and K RAA, the existing riverbank portions of the former oxbow areas will be addressed separately from this SOW and in a manner described in the CD. Specifically, such areas will be addressed as part of Removal Actions for the Housatonic River -- either the Upper ½ Mile Reach Removal Action, to be performed by GE, or the 1 ½ Mile Reach Removal Action, to be performed by EPA.

For the Removal Actions at or relating to the RAAs identified above, Performance Standards have been established. The Performance Standards for these Removal Actions, excluding activities relating to groundwater and NAPL, are set forth in Section 2.3.2, while other requirements relating to the Response Actions at the Former Oxbow Area are discussed in Sections 2.3.3, 2.3.4, and 2.3.5. The Performance Standards and other requirements relating to groundwater and NAPL at the Former Oxbow Area are included in Section 2.7 below, Attachment H to this SOW (Groundwater/NAPL Monitoring, Assessment, and Response Programs), and (for specific source control activities) Annex 2 to this SOW. The Performance Standards and other requirements for natural resource restoration/habitat enhancement activities to be performed by GE, as part of the NRD settlement, in conjunction with response activities at the GE Plant Area are discussed in Section 2.8 below and Attachment I to this SOW (Natural Resource Restoration/ Enhancement Activities).

To demonstrate compliance with and to achieve the Performance Standards established for the Removal Actions at the Former Oxbow Areas, GE shall prepare, for each such Removal Action, a series of

technical RD/RA deliverables for EPA review, comment, and approval. These submittals are further described in Section 3.0 of this SOW.

2.3.2 Performance Standards for Removal Actions

For the Removal Actions at the Former Oxbow Areas, GE shall achieve the Performance Standards set forth in the CD for each Removal Action and the following Performance Standards:

Grants of Environmental Restrictions and Easements

1. For all properties owned by GE within the Former Oxbow Areas, GE shall execute and record EREs in accordance with Section XIII of the CD.

2. For properties not owned by GE within the Former Oxbow Area RAAs, GE shall use best efforts, (as defined in the CD) to obtain EREs in accordance with Section XIII of the CD (unless the Performance Standards for residential use, as described in Standard #8 below, are met at such a property). If an ERE cannot be obtained for a non-GE-owned property, GE shall implement a Conditional Solution at such property, which shall achieve the Performance Standards for Conditional Solutions set forth below and in Paragraph 34 of the CD.

Response Actions for PCBs in Soil

3. Except as otherwise specified below in this section, the extent of response actions to address PCBs in soils at the Former Oxbow Areas shall be determined based on the spatial averaging of PCB concentrations in certain averaging areas, using the spatial averaging procedures described in Attachment E to this SOW (Protocols for PCB Spatial Averaging). To determine the averaging areas for the top foot of soil at the Former Oxbow Areas, GE shall use one of the following options at each individual parcel as defined on City tax maps:

    a. GE may consider the entire property as an averaging area provided that, in addition to achieving the spatial average PCB Performance Standards described below, GE ensures the removal of all soils in the top foot in unpaved portions of the property that contain PCB concentrations in excess of the following NTE levels: 125 ppm for a

commercial/industrial property, 50 ppm for a recreational property, or 10 ppm for a residential property; or

b. GE may establish averaging areas at the property which do not exceed the following sizes: 0.5 acre for a commercial/ industrial or recreational property or 0.25 acre for a residential property; or

c. GE may propose other specific averaging area(s) for the property to EPA for approval.

The particular option(s) selected by GE for averaging areas in the top foot at such properties shall be presented in the Conceptual RD/RA Work Plan for the Removal Action that involves such properties. For averaging that includes soils deeper than one foot, the averaging areas for the properties in the Former Oxbow Areas shall correspond to the boundaries of each separately owned property, and spatial averages shall be calculated for the depth increments identified in Attachment E to this SOW.

4. For the portions of the Newell Street Area II and Lyman Street Area RAAs that consist of existing parking lots owned by GE (including both paved and unpaved properties), as generally depicted on Figure 2-4, GE shall remove the top one foot (total) of the existing pavement and underlying soil material, and replace such removed pavement/soil with a one-foot vegetative engineered barrier in accordance with the specifications for such barriers in Attachment G to this SOW (Technical Requirements for Capping, Engineered Barriers, and Other Surface Covers), except as follows: (i) In lieu of removal of the top foot of pavement/soil, GE may propose to EPA the installation of a one-foot vegetative engineered barrier over the existing pavement/soil, and may implement that approach provided that EPA approves such approach (based on consideration of PCB levels, impacts on drainage, and other relevant factors) and that Flood Storage Compensation is provided; and/or (ii) an engineered barrier need not be installed in any discrete portion of either parking lot where the spatial average PCB concentrations (using an appropriate data set as presented in Attachment D to this SOW -- e.g., sampling on a 50-foot grid spacing -- and using the procedures specified in Attachment E to this SOW) do not exceed 10 ppm in the top foot, 15 ppm in the 1- to 3-foot depth increment and 100 ppm in the top 15 feet, provided that the effectiveness of the barrier is not compromised by discontinuities in the barrier. In addition, if either parking lot contains subsurface utilities potentially subject to

emergency repair requirements and the spatial average PCB concentration for those soils present in the utility corridor that may need to be removed during an emergency repair exceeds 200 ppm, GE shall evaluate whether any additional response actions are necessary. GE shall submit that evaluation, together with a proposal for such actions if needed, to EPA for review and approval.

5. For the GE-owned wooded area at Newell Street Area II (Parcel J9-23-12) and the GE-owned riparian strip (Parcel J9-23-12) at Newell Street Area I, as generally depicted on Figure 2-4, GE shall initially calculate existing spatial average PCB concentrations for the 0- to 1-foot and 1- to 3-foot depth increments for each area. If the spatial average PCB concentration exceeds 10 ppm in the top foot or 15 ppm in the 1- to 3-foot depth increment, GE shall conduct one of the following response actions.

   a. GE shall remove and replace soils as necessary to achieve spatial average PCB concentrations at or below 10 ppm in the top foot and 15 ppm in the 1- to 3-foot depth increment at the area. (In addition, if GE selected the option described in Standard #3.a, GE shall remove all soils containing PCB concentrations greater than 50 ppm from the top foot of such area.) GE shall then calculate the spatial average PCB concentration for the 0- to 15-foot depth increment (incorporating the anticipated performance of response actions for the 0- to 1-foot and 1- to 3-foot depth increments). If the resulting spatial average PCB concentration for the 0- to 15-foot depth increment exceeds 100 ppm, GE shall install a vegetative engineered barrier in accordance with the specifications for such barriers in Attachment G to this SOW, and shall provide Flood Storage Compensation within the same general area, but not necessarily in the specific location of the engineered barrier.

   b. Alternatively, GE shall remove the top foot of soil and install a vegetative engineered barrier over portions of such area until the spatial average PCB concentrations in the remaining portions of the area do not exceed 10 ppm in the top foot and 15 ppm in the 1- to 3-foot depth increment. For the portions of the area not subject to an engineered barrier as described above, GE shall calculate the spatial average PCB concentration for the 0- to 15-foot depth increment. If the spatial average PCB concentration for the 0- to 15-foot depth increment exceeds 100 ppm, GE shall install an engineered barrier.

Any barriers installed as a result of these response actions shall be installed in accordance with the specifications for such barriers in Attachment G to this SOW. In addition, GE shall provide Flood Storage Compensation within the same general area of the barriers, but not necessarily in the specific location of the engineered barrier.

6. For commercial/industrial properties in the Former Oxbow Areas, as generally depicted on Figures 2-4 and 2-5 (excluding the GE-owned parking lots discussed in Performance Standard #4), GE shall perform the following response actions:

a. For such properties owned by GE and for other properties for which EREs are obtained in accordance with Performance Standard #2 above, the response actions shall consist of the following:

i. GE shall calculate the existing spatial average PCB concentration for the 0- to 1-foot depth increment for (a) the unpaved portion of each averaging area, and (b) the paved portion of each averaging area. If the spatial average PCB concentration in the unpaved portion of such area exceeds 25 ppm, GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration of 25 ppm or below in the top foot. (In addition, if GE selected the option described in Standard #3.a, GE shall remove all soils containing PCB concentrations greater than 125 ppm from the top foot of the unpaved portion of the property.) If the spatial average PCB concentration in the paved portion of such area exceeds 25 ppm, GE shall either remove and replace soils as necessary to achieve that spatial average concentration in the top foot or enhance the existing concrete/asphalt surfaces in such portion in accordance with the specifications for pavement enhancement in Attachment G to this SOW.

ii.. GE shall also calculate the existing spatial average PCB concentration for the 1- to 6-foot depth increment at each such property (considering the paved and unpaved portions together). If that spatial average PCB concentration exceeds 200 ppm, GE shall remove and replace soils as necessary to achieve a spatial

average PCB concentration of 200 ppm or below in the 1- to 6-foot depth increment;

iii. GE shall then calculate the spatial average PCB concentration for the 0- to 15-foot depth increment (or to whatever depth sampling data exist, if less than 15 feet), incorporating the anticipated performance of any response actions for the 0- to 1-foot and 1- to 6-foot depth increments. If that spatial average PCB concentration exceeds 100 ppm, GE shall install an engineered barrier in accordance with the specifications for such barriers in Attachment G to this SOW.

iv. For areas subject to pavement enhancement or engineered barriers, GE shall provide Flood Storage Compensation in the same general area but not necessarily in the specific locations of the pavement enhancement or engineered barrier.

b. For such properties where an ERE cannot be obtained, GE shall initially calculate a spatial average PCB concentration for the 0- to 1-foot depth increment at each averaging area at the property. If the spatial average PCB concentration exceeds 25 ppm in this depth increment, GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration at or below 25 ppm for this increment at each such area. (In addition, if GE selected the option described in Standard #3.a, GE shall remove all soils containing PCB concentrations greater than 125 ppm from the top foot of unpaved portions of such property.) GE shall then calculate the spatial average PCB concentration for the 0- to 3-foot depth increment at each averaging area (incorporating the anticipated performance of any response actions for the 0- to 1-foot depth increment). If that spatial average exceeds 25 ppm, GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration at or below 25 ppm for the 0- to 3-foot depth increment. GE shall then calculate the spatial average PCB concentration for the 1- to 6-foot depth increment at the property (incorporating the anticipated performance of any response actions for the 0- to 3-foot depth increment). If the resulting spatial average concentration exceeds 200 ppm in the 1- to 6-foot depth increment, GE shall remove and replace soils as necessary to achieve that spatial

average concentration. Finally, GE shall calculate the spatial average PCB concentration for the 0- to 15-foot depth increment (or to whatever depth sampling data exist, if less than 15 feet), incorporating the anticipated performance of any response actions for the uppermost 6 feet. If that spatial average PCB concentration exceeds 100 ppm, GE shall install an engineered barrier in accordance with the specifications for such barriers in Attachment G to this SOW, and shall provide Flood Storage Compensation in the same general area but not necessarily in the specific location of the engineered barrier. These actions shall be deemed a Conditional Solution under the CD, and GE shall also meet the other requirements set forth in Paragraphs 34-38 of the CD for Conditional Solutions.

c. For properties where utilities potentially subject to emergency repair requirements (e.g., water, gas, sewer, electricity, communication, and stormwater) are present and the spatial average PCB concentration for those soils present in the utility corridor that may need to be removed during an emergency repair exceeds 200 ppm, GE shall evaluate whether any additional response actions are necessary. GE shall submit that evaluation, together with a proposal for such actions if needed, to EPA for review and approval. In addition, in the event that a new sub-grade utility is installed at such a property, or if an existing subgrade utility is repaired or replaced in the future, GE shall ensure that the spatial average PCB concentration of the backfill materials is at or below 25 ppm.

7. For recreational properties within the Former Oxbow Areas, as generally depicted on Figures 2-4 and 2-5, GE shall perform the following response actions:

a. For properties for which an ERE is obtained in accordance with Performance Standard #2, GE shall initially calculate existing spatial average PCB concentrations for the 0- to 1-foot and 1- to 3-foot depth increments at each averaging area at the property. If the spatial average PCB concentration exceeds 10 ppm in the top foot or 15 ppm in the 1- to 3-foot depth increment, GE shall remove and replace soils as necessary to achieve spatial average PCB concentrations at or below those levels in the increments specified at such area. (In addition, if GE selects the option described in Standard #3.a, GE shall remove all soils containing PCB concentrations greater than 50 ppm from the top foot of unpaved portions of such property.) GE shall then calculate the spatial average PCB

concentration for the 0- to 15-foot depth increment at the property (or to whatever depth sampling data exist, if less than 15 feet) incorporating the anticipated performance of response actions for the 0- to 1-foot and 1- to 3-foot depth increments. If that spatial average PCB concentration exceeds 100 ppm, GE shall install an engineered barrier in accordance with the specifications for such barriers in Attachment G to this SOW, and shall provide Flood Storage Compensation within the same general area, but not necessarily in the specific location of the engineered barrier.

b. If an ERE cannot be obtained for such a property, GE shall initially calculate a spatial average PCB concentration for the 0- to 1-foot depth increment at each averaging area. If the spatial average PCB concentration exceeds 10 ppm in this depth increment, GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration at or below 10 ppm in such area. (In addition, if GE selected the option described in Standard #3.a, GE shall remove all soils containing PCB concentrations greater than 50 ppm from the top foot at the property.) GE shall then calculate the spatial average PCB concentration for the 0- to 3-foot depth increment at each averaging area (incorporating the anticipated performance of any response actions for the 0- to 1-foot depth increment). If that spatial average exceeds 10 ppm, GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration at or below 10 ppm for the 0- to 3-foot depth increment. GE shall then calculate the spatial average PCB concentration for the 0- to 15-foot depth increment at the property (or to whatever depth sampling data exist, if less than 15 feet) incorporating the anticipated performance of response actions for the uppermost 3 feet. If that spatial average PCB concentration exceeds 100 ppm, GE shall install an engineered barrier in accordance with the specifications for such barriers in Attachment G to this SOW, and shall provide Flood Storage Compensation within the same general area, but not necessarily in the specific location of the engineered barrier. These actions shall be deemed a Conditional Solution under the CD, and GE shall also meet the other requirements set forth in Paragraphs 34-38 of the CD for Conditional Solutions.

c. For properties where utilities potentially subject to emergency repair requirements (e.g., water, gas, sewer, electricity, communication, and stormwater) are present and the spatial average PCB concentration for those soils present in the utility corridor that may

need to be removed during an emergency repair exceeds 200 ppm, GE shall evaluate whether any additional response actions are necessary. GE shall submit that evaluation, together with a proposal for such actions if needed, to EPA for review and approval. In addition, in the event that a new sub-grade utility is installed at such a property, or if an existing subgrade utility is repaired or replaced in the future, GE shall ensure that the spatial average PCB concentration of the backfill materials is at or below 10 ppm in the top 3 feet and 25 ppm for soils at greater depths.

8. For each currently residential property within the Former Oxbow Areas, as depicted on Figure 2-5, GE shall calculate spatial average PCB concentrations for the 0- to 1-foot and 1- to X-foot depth increments at each averaging area, where X equals the depth at which PCB have been detected (up to a maximum of 15 feet). If the spatial average PCB concentration in the 0- to 1-foot or 1- to X-foot depth increment exceeds 2 ppm, GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration at or below 2 ppm in each of those depth increments at such averaging area. (In addition, if GE selects the option described in Standard #3.a, GE shall remove all soils containing PCB concentrations greater than 10 ppm from the top foot in unpaved portions of the property.).

Response Actions for Non-PCB Constituents in Soil

9. To address the presence of Appendix IX+3 constituents other than PCBs in soils at the Former Oxbow Areas, GE shall conduct an evaluation of such constituents for each averaging area at each property. This evaluation shall be conducted in accordance with the protocols described in Attachment F to this SOW (Protocols for the Evaluation of Non-PCB Constituents in Soil). It shall comply with the same process-related Performance Standards set forth in Performance Standard #21 for the GE Plant Area (in Section 2.2.2 above), with the addition that, for residential properties, GE shall use the Screening PRGs for residential areas, the EPA dioxin PRG of 1 ppb for residential areas, the MCP Method 1 S-1 soil standards, and a residential use scenario for any property-specific risk evaluation conducted.

10. If the evaluation described in Performance Standard #9 indicates the need for further response actions to address non-PCB constituents, GE shall develop, for EPA review and approval,

specific Performance Standards for such response actions. Such Performance Standards shall be based on achieving the following, after taking into account the PCB-related response actions:

a. For dioxin/furan TEQs, either maximum or 95% UCL TEQ concentrations that do not exceed the applicable EPA PRGs for dioxin; and

b. For other constituents, any combination of the following: (i) maximum concentrations of individual constituents that do not exceed the applicable Screening PRGs; (ii) concentrations of individual constituents that are consistent with background levels (using an appropriate statistical technique or summary statistics); or (iii) for the remaining constituents (if any), either (A) average concentrations that do not exceed the applicable Method 1 (or 2) soil standards, or (B) cumulative risk levels that do not exceed (after rounding) an ELCR of 1×10^{-5} and a non-cancer Hazard Index of 1.

GE shall then propose and, upon EPA approval, undertake additional response actions as necessary to achieve those Performance Standards. The specific types of response activities to be taken to achieve such Performance Standards (e.g., soil removal, capping, pavement enhancement) shall be the same as those established by the Performance Standards for PCBs at the property or area in question, subject to potential modification if necessary based on the nature and concentration of volatile constituent.

2.3.3 Additional Pre-Design Field Investigations

Prior to the performance of detailed RD/RA activities, GE shall conduct pre-design activities for each RAA at the Former Oxbow Areas. Such activities will be performed to further characterize existing site conditions, satisfy certain investigation-related requirements presented in the CD and this SOW, support evaluations concerning the scope of the response actions to achieve the Performance Standards set forth above, and serve as the basis for the development of RD/RA activities. The scope of the pre-design investigations will vary for each RAA and will consider the specific Performance Standards for the Removal Action in question and the type and extent of information that is already available for each RAA.

For each Removal Action, a Pre-Design Work Plan shall be prepared pursuant to the requirements of Section 3.0 of this SOW. That plan will include a summary of available site information to support

future RD/RA activities (including a data quality assessment of the historical data and a proposal as to which such data are of adequate quality to be used), and an assessment of additional information needs to address the Performance Standards established for each Removal Action. To determine the scope of the necessary additional soil sampling, GE shall initially consider the existing soils data available for each RAA, and specifically the horizontal and vertical distribution of the data set. Where necessary based on this review, and as approved by EPA, GE shall perform additional soil sampling in accordance with Attachment D to this SOW (Protocols for Additional Soil Investigations), which describes the procedures by which additional sampling locations will be selected. The frequency of soil sampling is dependent on the type of existing surface within the various RAAs and will not include current buildings or locations of former buildings where the building foundation remains. A summary follows:

C For commercial and recreational properties (Figures 2-4 and 2-5) (other than the GE-owned parking lots and Hibbard Playground), surface soil samples (i.e., 0- to 1-foot depth) will be collected within an approximate 50-foot grid sampling pattern, while subsurface soil samples will be collected within an approximate 100-foot grid. At subsurface sampling locations, samples will be collected from the 1- to 3-, 3- to 6-, 6- to 10-, and 10- to 15-foot depth intervals. This frequency of sampling is based on the assumption that GE will be able to obtain an ERE from the current property owner(s). If an ERE cannot be obtained, a more dense grid sampling may be necessary to design and implement an Conditional Solution in accordance with the Performance Standards for Conditional Solutions set forth in Section 2.3.2.

• For the GE-owned parking lots, surface soil sampling (i.e., 0- to 1-foot depth) shall be conducted on an approximate 50-foot grid in those areas where GE may not need to install a vegetative engineered barrier (Figure 2-4) or where GE proposes the installation of a barrier over the existing pavement/soil. Also, subsurface soil samples shall be collected from throughout the parking lots on an approximate 100-foot grid, with soil samples collected from the 1- to 3-, 3- to 6-, 6- to 10-, and 10- to 15-foot depth intervals, to the extent necessary taking into account existing useable data.

C For the Hibbard Playground, soil sampling will be initially conducted within the area shown on Figure 2-4, with the need for subsequent sampling to be determined by the results of the initial investigations. Within this area, surface soil samples (i.e., 0- to 1-foot depth) will be collected within an approximate 50-foot sampling grid, while subsurface soils will be collected within an

approximate 100-foot sampling grid at depths of 1- to 3-, 3- to 6-, 6- to 10-, and 10- to 15-foot depth intervals.

- For residential properties (Figure 2-5), surface soil samples (0- to 0.5- and 0.5 to 1-foot depth increments) will be collected within an approximately 25-foot grid sampling pattern. For subsurface soils, sampling will be performed within an approximate 50-foot grid sampling pattern. Subsurface soil sampling will advance vertically from the ground surface to a depth determined by the extent of any visible fill material or evidence of contamination, or to the water table, whichever occurs deeper, and samples from the 1- to 2-foot depth, and in 2-foot depth increments thereafter, will be collected.

All soil samples will be analyzed for PCBs. In addition, certain samples will be analyzed for Appendix IX+3 constituents, selected in accordance with the protocols described in Attachment D to this SOW (Protocols for Additional Soil Investigations).

2.3.4 Design and Implementation of Removal Actions

The Removal Actions for the Former Oxbow Area RAAs shall be based on the Performance Standards identified in the CD and this SOW, and shall incorporate information available from prior investigations (to the extent such historical data are determined to be of adequate quality for usage) and the pre-design activities described above. For PCBs in soils, such available information will be utilized to estimate spatial average PCB concentrations under current conditions for designated averaging areas using the general procedures presented in Attachment E to this SOW (Protocols for PCB Spatial Averaging). The results of these calculations will serve as the basis for determining the scope of response actions. If Removal Actions are determined to be necessary for a given area, the spatial averaging methods described in Attachment E will be used to support response design activities.

Based upon this spatial averaging, GE shall evaluate the scope of response actions necessary to meet the PCB-related Performance Standards set out in Section 2.3.2. GE shall also evaluate the need for and extent of additional response actions to address non-PCB constituents in accordance with the Performance Standards relating to such constituents. The results of these evaluations will be submitted to EPA for approval in the Conceptual RD/RA Work Plan, as described in Section 3.3 below. That work

plan will also present the results of other pre-design evaluations -- e.g., an assessment of the need for and type of additional response actions to address groundwater and/or NAPL.

Following EPA approval of the Conceptual RD/RA Work Plan and subsequently the RD/RA Work Plan for each Removal Action, as provided in Section 3.0, GE shall implement the required Removal Action to achieve the Performance Standards set out in Section 2.3.2. As described in Section 2.1.4, excavated materials will be placed in the on-plant consolidation areas, subject to the conditions and limitations set out in Section 2.1.4 of this SOW. Where soil replacement is called for by the Performance Standards, GE will utilize backfill material (e.g., gravel, loam, etc.) that is appropriate for the given application and has been approved by the EPA based on representative sampling results provided by GE.

Restoration of areas affected by response activities shall, at a minimum, restore such areas to existing conditions, unless otherwise specified in the approved RD/RA work plans, and shall be performed to minimize future and permanent disturbances to both wetland and non-wetland areas. Such measures will be incorporated into response design activities and will be presented in the technical RD/RA deliverables for each Removal Action. Restoration activities for response actions occurring within resource areas (e.g., floodplain areas) regulated under the Massachusetts Wetlands Protection Act (310 CMR 10.0000) shall, to the maximum extent practicable, incorporate measures consistent with that Act (e.g., re-establishment of existing surface conditions, provision of flood storage compensation, etc.). Such measures will be developed based a pre-design site assessment which will evaluate the existing site conditions prior to performing the Removal Actions. This assessment will evaluate conditions such as topography, ground cover and vegetation, general soil conditions, and habitat viability. Details regarding such restoration activities will be presented in the technical RD/RA deliverables prepared for each Removal Action.

2.3.5 Post-Removal Site Control Activities

After implementation of each of the foregoing Removal Actions at the Former Oxbow Areas, GE shall perform Post-Removal Site Control activities. These activities shall include, as appropriate, the inspection, maintenance, and repair (as necessary) of the engineered barriers, and other surface covers installed at the Former Oxbow Areas, as described in Attachment J to this SOW (Future Inspection and Maintenance Activities). Additional details regarding the specific future inspection and maintenance

activities associated with each Removal Action at the Former Oxbow Areas will be identified in the RD/RA deliverables for that Removal Action.

In addition, GE will continue its current systems for NAPL containment and recovery and groundwater treatment, and will conduct groundwater/NAPL monitoring, assessment, and response activities, as discussed in Section 2.7 of this SOW and Attachment H to this SOW (Groundwater/NAPL Monitoring, Assessment, and Response Programs).

2.4 Allendale School Property

2.4.1 General

This section of the SOW sets forth the Performance Standards and other requirements that GE shall comply with in carrying out the Removal Actions related to the Allendale School Property (Figure 2-6). For this Removal Action, Performance Standards have been established to address the presence of PCBs and non-PCB constituents in soil. The Performance Standards for the Allendale School Property are set out in Section 2.4.2, while other information relating to this RAA is discussed in the remainder of Section 2.4.

To demonstrate compliance with and to achieve the Performance Standards established for Allendale School Property, GE has prepared a series of technical RD/RA deliverables for EPA review, comment, and approval. These submittals are further described in Section 2.4.3 of this SOW.

2.4.2 Performance Standards for Removal Action

For the Removal Action at the Allendale School Property, GE shall achieve the Performance Standards set forth in the CD for that Removal Action and the following Performance Standards:

Response Actions for PCBs in Soils

1. Except as noted in Performance Standard No. 2 below, GE shall remove all soils that contain PCBs at concentrations greater than 2 ppm, including such soils under the approximate 2-foot

cover that was installed by GE at this area in 1991 (see Figure 2-6). The soil cover materials will be separately excavated and segregated from the other site soils subject to removal.

2. Within an approximate 25-foot wide strip along the rear portions of the current school building, GE shall, to the extent practicable, remove soil from two discrete locations, -- i.e., in the vicinity of prior sample locations A-01 and A-02. Furthermore, GE shall remove additional soils from within this strip as necessary to achieve a spatial average PCB concentration of less than 2 ppm. This standard has been established to alleviate concerns regarding structural support of the school building during soil removal actions, as well as potential disruptions to the utility service lines present in a particular portion of this area, while still removing, to the extent practicable, soils shown to contain greater than 2 ppm PCBs.

3. Following soil removal, GE shall replace the excavated materials with the soil cover materials from the 1991 cover and other existing, on-site soils containing less than 2 ppm PCBs (based on existing in-situ soil sampling data), and then clean soil from an off-site location. GE shall then restore the affected area to match generally the topography, surface cover types, and facilities (e.g., ballfields and playground equipment) currently present within the affected areas.

Response Actions for Non-PCB Constituents

4. The Performance Standards for Appendix IX+3 constituents other than PCBs in the soils at the Allendale School Property shall consist of achieving the following concentrations in the soils that will be present at the property after performance of the soil removal and replacement activities to address PCBs: (a) for dioxin/furan TEQs, no concentration in excess of EPA's dioxin PRG of 1 ppb for residential areas; and (b) for other individual constituents, no concentration of the constituent in excess of the residential Screening PRGs, or constituent concentrations consistent with background levels (based on summary statistics), or average concentrations that do not exceed the MCP Method 1 S-1 soil standards. An evaluation conducted by GE in accordance with the protocols described in Attachment F to this SOW (Protocols for the Evaluation of Non-PCB Constituents in Soil) and approved by EPA indicates that the soil removal and replacement activities to address PCBs in the soils at this property will result in the achievement of those Performance Standards for non-PCB constituents. Accordingly no further response actions shall be required at this property to address such constituents.

2.4.3 Additional Pre-Design and Design Activities

In order to prepare for the RD/RA activities for the Allendale School Property, GE has submitted and EPA has approved a *Pre-Design Work Plan for the Allendale School Property*, and has carried out the additional soil investigations proposed therein and approved by EPA. In addition, based on the results of those investigations, as well as all prior investigations at the Allendale School Property, GE has submitted a detailed *Removal Design/Removal Action Work Plan for the Allendale School Property*. Copies of that Work Plan, subsequent Work Plan addendum, and EPA conditional approval of these documents are provided in Annex 3 to this SOW.

2.4.4 Implementation of Removal Action

GE shall implement the Removal Action for the Allendale School Property to achieve the Performance Standards set out in Section 2.4.2 and in accordance with the RD/RA Work Plan contained in Annex 3 to this SOW, as approved or conditionally approved by EPA.

2.4.5 Post-Removal Site Control Activities

After implementation of the Removal Action for the Allendale School Property, GE shall perform Post-Removal Site Control activities. For the Allendale School Property, those activities shall consist of periodic inspection and maintenance of the backfilled area and surface cover, as described in Attachment J to this SOW (Future Inspection and Maintenance Activities).

2.5 Housatonic River Floodplain

2.5.1 General

This section of the SOW sets forth the Performance Standards and other requirements that GE shall comply with in carrying out the Removal Actions at or related to the RAAs associated with the Housatonic River Floodplain. These Removal Actions relate to the following RAAs, which were previously described in Section 1.2 of this SOW and generally depicted on the figures listed below:

- Floodplain Current Residential Properties Adjacent to 1½ Mile Reach - Actual/Potential Lawns ;

- Floodplain Non-Residential Areas Adjacent to 1 ½ Mile Reach (excluding banks); and

- Floodplain Current Residential Properties Downstream of Confluence - Actual/Potential Lawns.

The properties that fall within these categories, as well as the portions of those properties subject to response actions pursuant to this SOW (i.e., the Actual/Potential Lawns of the residential properties and the non-bank portions of the non-residential properties), are depicted on Figures 2-7 through 2-24, except that these figures do not include the residential properties downstream of Woods Pond Dam. (The latter properties will be identified on figures in the technical RD/RA deliverables for the Removal Action addressing such properties.)

Specifically excluded from the RAAs identified above are: (1) the river sediments and riverbank soils located in the river reach between Newell Street and Lyman Street in Pittsfield (Upper ½ Mile Reach), in which GE will undertake sediment/bank soil removal/restoration actions in accordance with work plans approved by EPA and addressed separately in the CD; (2) sediments and riverbank soils in the 1 ½ Mile Reach of the river, which will be subject to a Removal Action to be selected and implemented by EPA through a separate process described in the CD; or (3) sediments and riverbank soils in the remaining stretch of the Housatonic River (Downstream of Confluence), as well as the floodplain soils in that stretch (i.e., non-residential areas and residential areas that are not Actual/Potential Lawns), all of which will be addressed through a separate process described in the CD.

For the Removal Actions at or relating to the RAAs identified above, specific Performance Standards have been established. The Performance Standards for these Removal Actions are set forth in Section 2.5.2, while other requirements relating to these RAAs are discussed in the remainder of Section 2.5.

To demonstrate compliance with and to achieve the Performance Standards established for these Removal Actions, GE shall prepare, for each such Removal Action, a series of technical RD/RA deliverables for EPA review, comment, and approval. These submittals are further described in Section 3.0 of this SOW.

2.5.2 Performance Standards for Removal Actions

For Removal Actions at and related to the floodplain RAAs identified above, GE shall achieve the Performance Standards set forth in the CD for such Removal Actions and those set forth below. (For purposes of these Removal Actions, the floodplain is defined as the approximate 1 ppm PCB isopleth line as generally shown on Figures 2-7 through 2-24 for properties between the Lyman Street bridge and Woods Pond Dam and to be identified, for properties downstream of Woods Pond Dam, in the technical RD/RA deliverables for the Removal Action addressing such properties.)

Spatial Averaging for PCBs in Soils

1. The extent of response actions to address PCBs in soils at the Housatonic River Floodplain RAAs shall be determined based on the spatial averaging of PCB concentrations in certain averaging areas, using the spatial averaging procedures described in Attachment E to this SOW (Protocols for PCB Spatial Averaging). To determine the averaging areas for the top one foot of soil at these RAAs, GE shall use one of the following options at each separately owned property:

    a. GE may consider the entire Actual/Potential Lawn of a residential property or the entire non-bank portion of a non-residential property (including both the portion located within the floodplain and any portion located outside the floodplain) as an averaging area provided that: (i) residential, recreational, or commercial exposure, as applicable, is equally likely throughout that area; and (ii) in addition to achieving the spatial average PCB Performance Standards described below, GE ensures the removal of all soils in the top foot in unpaved portions of the property that contain PCB concentrations in excess of the following NTE levels: 10 ppm for a residential property, 50 ppm for a recreational property, or 125 ppm for a commercial/industrial property; or

    b. GE may establish averaging areas at the property which do not exceed the following sizes: 0.25 acre for a residential property or 0.5 acre for a recreational or commercial/industrial property; or

    c. GE may propose other specific averaging area(s) for the property to EPA for approval.

The particular option(s) selected by GE for averaging areas in the top foot at such properties shall be presented in the RD/RA Work Plan for the Removal Action that involves such properties. For averaging that includes soils deeper than one foot, the averaging areas for the properties at the Housatonic River Floodplain RAAs shall correspond to the entire Actual/Potential Lawn of a residential property and the entire non-bank portion of a non-residential property, provided that exposure is equally likely throughout such areas, and spatial averages shall be calculated for the depth increments identified in Attachment E to this SOW.

Response Actions for PCBs in Soils at Actual/Potential Lawns of Current Floodplain Residential Properties Adjacent to 1 ½ Mile Reach

2. For the approximately 35 currently residential properties in the floodplain adjacent to the 1½ Mile Reach, as generally depicted on Figures 2-7 through 2-9, GE shall conduct the following response actions for Actual/Potential Lawns (as defined in the CD) located in the floodplain: GE shall calculate spatial average PCB concentrations for the 0- to 1-foot and 1- to X-foot depth increments at each Actual/Potential Lawn averaging area, where X equals the depth at which PCBs are detected (up to a maximum of 15 feet). If the spatial average PCB concentration in the 0- to 1-foot or 1- to X-foot depth increment exceeds 2 ppm, GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration at or below 2 ppm in each of those depth increments. (In addition, if GE selected the option described in Standard #1.a, GE shall remove all soils containing PCB concentrations greater than 10 ppm from the top foot in unpaved portions of the property.)

Response Actions for PCBs in Soils at Floodplain Non-Residential Properties Adjacent to 1 ½ Mile Reach (Excluding Banks)

3. For the approximately 11 currently non-residential properties adjacent to the 1 ½ Mile Reach, as generally depicted on Figures 2-7 through 2-9, GE shall use best efforts (as defined in the CD) to obtain EREs in accordance with Section XIII of the CD (unless the Performance Standards for residential use, as described in Standard #2 above, are met at such a property). If an ERE cannot be obtained for such a non-GE-owned property, GE shall implement a

Conditional Solution at such property, which shall achieve the Performance Standards for Conditional Solutions set forth below and in Paragraph 34 of the CD.

4. At the currently recreational properties adjacent to the 1 ½ Mile Reach depicted on Figures 2-7 through 2-9, GE shall conduct the following response actions for the non-riverbank portions of such properties (shown on Figures 2-7 through 2-9):

a. For properties at which an ERE is obtained in accordance with Performance Standard #2, GE shall calculate spatial average PCB concentrations for the 0- to 1-foot and 1- to 3-foot depth increments for each non-riverbank averaging area. If the spatial average PCB concentration exceeds 10 ppm in the top foot or 15 ppm in the 1- to 3-foot depth, GE shall remove and replace soils as necessary to achieve spatial average PCB concentrations at or below those levels in the increments specified. (In addition, if GE selected the option described in Standard #1.a, GE shall remove all soils containing PCB concentrations greater than 50 ppm from the top foot in unpaved portions of such property.) GE shall then calculate the spatial average PCB concentration for the 0- to 15-foot depth increment (or to whatever depth sampling data exist, if less than 15 feet), incorporating the anticipated performance of any response actions for the uppermost three feet of the averaging area. If that spatial average PCB concentration exceeds 100 ppm, GE shall install an engineered barrier in accordance with the specifications for such barriers in Attachment G to this SOW, and provide Flood Storage Compensation within the same general area, but not necessarily in the specific location of the engineered barrier.

b. If a ERE cannot be obtained at such a property, GE shall initially calculate a spatial average PCB concentration for the 0- to 1-foot depth increment for each non-riverbank averaging area. If the spatial average PCB concentration exceeds 10 ppm in this increment GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration at or below 10 ppm in this increment. (In addition, if GE selected the option described in Standard #1.a, GE shall remove all soils containing PCB concentrations greater than 50 ppm from the top foot in unpaved portions of the property.) GE shall then calculate the spatial average PCB concentration for the 0- to 3-foot depth increment (incorporating the anticipated performance of any response

actions for the 0- to 1-foot depth increment). If that spatial average exceeds 10 ppm, GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration at or below 10 ppm for the 0- to 3-foot depth. GE shall then calculate the spatial average PCB concentration for the 0- to 15-foot depth increment (or to whatever depth sampling data exist, if less than 15 feet), incorporating the anticipated performance of any response actions for the uppermost three feet of the averaging area. If that spatial average PCB concentration exceeds 100 ppm, GE shall install an engineered barrier in accordance with the specifications for such barriers in Attachment G to this SOW, and provide Flood Storage Compensation within the same general area, but not necessarily in the specific location of the engineered barrier. These actions shall be deemed a Conditional Solution under the CD, and GE shall also meet the other requirements set forth in Paragraphs 34-38 of the CD for Conditional Solutions.

c. For properties where utilities potentially subject to emergency repair requirements (e.g., water, gas, sewer, electricity, communication, and stormwater) are present and the spatial average PCB concentration for those soils present in the utility corridor that may need to be removed during an emergency repair exceeds 200 ppm, GE shall evaluate whether any additional response actions are necessary. GE shall submit that evaluation, together with a proposal for such actions if needed, to EPA for review and approval. In addition, if a new sub-grade utility is installed at such a property or if an existing utility is repaired or replaced, GE shall ensure that the spatial average PCB concentration of the backfill materials is at or below 10 ppm in the top 3 feet and 25 ppm for soils at greater depths.

5. For commercial/industrial properties adjacent to the 1 ½ Mile Reach, GE shall perform the following response actions:

a. For such properties for which EREs are obtained in accordance with Performance Standard #2 above, response actions shall consist of the following:

i. GE shall calculate the existing spatial average PCB concentration for the 0- to 1-foot depth increment for (a) the unpaved portion of each averaging area, and

(b) the paved portion of each averaging area. If the spatial average PCB concentration in the unpaved portion of such area exceeds 25 ppm, GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration of 25 ppm or below in the top foot. (In addition, if GE selected the option described in Standard #1.a, GE shall remove all soils containing PCB concentrations greater than 125 ppm from the top foot of the unpaved portion of the property.) If the spatial average PCB concentration in the paved portion of such area exceeds 25 ppm, GE shall either remove and replace soils as necessary to achieve that spatial average concentration in the top foot or enhance the existing concrete/asphalt surfaces in such portion in accordance with the specifications for pavement enhancement in Attachment G to this SOW.

ii. GE shall also calculate the existing spatial average PCB concentration for the 1- to 6-foot depth increment at each such property (considering the paved and unpaved portions together). If that spatial average PCB concentration exceeds 200 ppm, GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration of 200 ppm or below in the 1- to 6-foot depth increment;

iii. GE shall then calculate the spatial average PCB concentration for the 0- to 15-foot depth increment (or to whatever depth sampling data exist, if less than 15 feet), incorporating the anticipated performance of any response actions for the 0- to 1-foot and 1- to 6-foot depth increments. If that spatial average PCB concentration exceeds 100 ppm, GE shall install an engineered barrier in accordance with the specifications for such barriers in Attachment G to this SOW; and

iv. For areas subject to pavement enhancement or engineered barriers, GE shall provide Flood Storage Compensation in the same general area but not necessarily in the specific locations of the pavement enhancement or engineered barrier.

b. For such properties where an ERE cannot be obtained, GE shall initially calculate a spatial average PCB concentrations for the 0- to 1-foot depth increment at each such averaging area. If the spatial average PCB concentration exceeds 25 ppm in this depth increment, GE shall remove and replace soils as necessary to achieve a spatial average PCB concentrations at or below 25 ppm for this increment. (In addition, if GE selected the option described in Standard #1.a, GE shall remove all soils containing PCB concentrations greater than 125 ppm from the top foot in unpaved portions of such property.) GE shall then calculate the spatial average PCB concentration for the 0- to 3-foot depth increment for the area (incorporating the anticipated performance of any response actions for the 0- to 1-foot depth increment). If that spatial average exceeds 25 ppm, GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration at or below 25 ppm for the 0- to 3-foot depth increment. GE shall then calculate the spatial average PCB concentration for the 1- to 6-foot depth increment for the area (incorporating the anticipated performance of any response actions for the 0- to 3-foot depth increment). If the resulting spatial average concentration exceeds 200 ppm in the 1- to 6-foot depth increment, GE shall remove and replace soils as necessary to achieve that spatial average concentration. Finally, GE shall calculate the spatial average PCB concentration for the 0- to 15-foot depth increment (or to whatever depth sampling data exist, if less than 15 feet), incorporating the anticipated performance of any response actions for the uppermost 6 feet. If that spatial average PCB concentration exceeds 100 ppm, GE shall install an engineered barrier in accordance with the specifications for such barriers in Attachment G to this SOW, and shall provide Flood Storage Compensation in the same general area but not necessarily in the specific location of the engineered barrier. These actions shall be deemed a Conditional Solution under the CD, and GE shall also meet the other requirements set forth in Paragraphs 34-38 of the CD for Conditional Solutions.

c. For properties where utilities potentially subject to emergency repair requirements (e.g., water, gas, sewer, electricity, communication, and stormwater) are present and the spatial average PCB concentration for those soils present in the utility corridor that may need to be removed during an emergency repair exceeds 200 ppm, GE shall evaluate whether any additional response actions are necessary. GE shall submit that evaluation, together with a proposal for such actions if needed, to EPA for review and approval.

In addition, if a new sub-grade utility is installed at such a property or if an existing utility is repaired or replaced, GE shall ensure that the spatial average PCB concentration of the backfill materials is at or below 25 ppm.

Response Actions for PCBs in Soils at Current Floodplain Residential Properties Downstream of Confluence

6. For approximately 12 currently residential properties with Actual/Potential Lawns (as defined in the CD) located in the floodplain of the Housatonic River between the confluence of the East and West Branches of the river and Woods Pond Dam (Figures 2-9 through 2-24), and any other residential properties located downstream of Woods Pond Dam with Actual/Potential Lawns present in the floodplain containing PCBs greater than 2 ppm (not shown on figures), GE shall conduct the following response actions: GE shall calculate spatial average PCB concentrations for the 0- to 1-foot and 1- to X-foot depth increments at each Actual/Potential Lawn averaging area, where X equals the depth at which PCBs are detected (up to a maximum of 15 feet). If the spatial average PCB concentration in the 0- to 1-foot or 1- to X-foot depth increment exceeds 2 ppm, GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration at or below 2 ppm in each of those depth increments. (In addition, if GE selected the option described in Standard #1.a, GE shall remove all soils containing PCB concentrations greater than 10 ppm from the top foot in unpaved portions of the property.)

7. For the portions of the current residential properties identified under Standard #6 that are not Actual/Potential Lawns, GE shall calculate a spatial average PCB concentration for the top six inches of soil at such portion of each such property. In addition, GE shall identify, and propose to EPA for approval, the appropriate current use scenario for the area in question (i.e., residential, recreational, or walker). GE shall then compare the spatial average PCB concentration in the top six inches of soil at the non-Actual/Potential Lawn area to the following PCB "trigger levels" previously established by MDEP for Short-Term Measures (STMs) in the Housatonic River floodplain:

Residential Use:	10 ppm
Recreational Use:	30 ppm
Walker Use:	50 ppm

If the spatial average PCB concentration in the top six inches of soil at such area exceeds the applicable "trigger level," GE shall propose to EPA an appropriate STM for the non-Actual/Potential Lawn area, such as the installation of warning signs along the bank, and shall carry out such STM as is approved by EPA. (Final response actions for these areas, if needed, will be determined through the separate process established in the CD for addressing the Rest of the River.)

Response Actions for Non-PCB Constituents

8. To address the presence of Appendix IX+3 constituents (as defined in the CD) other than PCBs in floodplain soils within the floodplain RAAs identified above, GE shall conduct an evaluation of such constituents for each Actual/Potential Lawn averaging area at residential properties and each non-riverbank averaging area at non-residential properties (as described above). This evaluation shall be conducted in accordance with the protocols described in Attachment F to this SOW (Protocols for Evaluation of Non-PCB Constituents in Soil). The process-related Performance Standards for such evaluation shall be the same as those set forth in Performance Standard #21 for the GE Plant Area (in Section 2.2.2 above) except as follows: (a) For residential properties, GE shall use the Screening PRGs for residential areas, the EPA dioxin PRG of 1 ppb for residential areas, the MCP Method 1 S-1 soil standards, and a residential use scenario for any property-specific risk evaluation conducted. (b) For floodplain properties located downstream of the GE Plant Area, where there are intervening potential sources of non-PCB constituents, GE may exclude from the evaluation particular properties (or portions of properties) where response actions are not necessary to address PCBs.

9. If the evaluation described in Standard #8 above indicates the need for further response actions to address non-PCB constituents at a given property, GE shall develop, for EPA review and approval, specific Performance Standards for such response actions. Such Performance Standards shall be based on achieving the following in the soils that will be present at the property after performance of the soil removal/replacement activities to address PCBs:

    a. For dioxin/furan TEQs, maximum or 95% UCL TEQ concentrations that do not exceed the EPA dioxin PRGs (1 ppb for residential properties; 1 ppb in surface soil and 1.5

ppb in the 1- to 3-foot depth increment for recreational properties; 5 ppb in surface soil and 20 ppb in subsurface soil for commercial properties); and

b. For other constituents, any combination of the following: (i) maximum concentrations of individual constituents that do not exceed the applicable Screening PRGs; (ii) concentrations of individual constituents that are consistent with background levels (using an appropriate statistical technique or summary statistics); or (iii) for the remaining constituents (if any), either (A) average concentrations that do not exceed the applicable Method 1 (or 2) soil standards, or (B) cumulative risk levels that do not exceed (after rounding) an ELCR of 1×10^{-5} and a non-cancer Hazard Index of 1.

GE shall then propose and, upon EPA approval, undertake additional soil removal/replacement activities, or other appropriate response actions approved by EPA, as necessary to achieve those Performance Standards.

2.5.3 Additional Pre-Design Field Investigations

Prior to the performance of detailed RD/RA activities, GE shall conduct certain pre-design activities for each floodplain RAA. Such activities will be performed to further characterize existing site conditions, satisfy certain investigation-related requirements presented in the CD and this SOW, support evaluations concerning the scope of response actions to achieve the Performance Standards set forth above, and serve as the basis for the development of RD/RA activities. The scope of the pre-design investigations will vary for each RAA and will consider the specific Performance Standards for the Removal Action in question and the type and extent of information that is already available for each RAA.

For each Removal Action, a Pre-Design Work Plan shall be prepared pursuant to the requirements of Section 3.0 of this SOW. That plan will include, among other things, a summary of available site information to support future RD/RA activities (including a data quality assessment of the historical data and a proposal as to which such data are of adequate quality to be used), and an assessment of additional data needs to achieve the Performance Standards for each Removal Action. To determine the scope of the necessary additional soil sampling, GE shall initially consider the existing soils data, including the horizontal and vertical distribution of the data set. Based on this review, GE shall propose additional soil sampling as necessary to characterize the constituents in the floodplain soils, consistent with prior

investigations of floodplain properties, and to support spatial averaging activities for PCBs. Grid sampling techniques consistent with those to be utilized at the GE Plant Area and Former Oxbow RAAs will be evaluated and utilized as appropriate. Upon EPA approval, GE shall conduct such soil sampling.

2.5.4 Design and Implementation of Removal Actions

The Removal Actions for the floodplain properties addressed in this section of the SOW shall be based on the Performance Standards identified in the CD and this SOW, and shall incorporate information available from prior investigations (to the extent such historical data are determined to be of adequate quality for usage) and the pre-design activities described above. For PCBs in soils, such available information will be utilized to estimate spatial average PCB concentrations under existing conditions for the designated areas within each RAA, using the procedures presented in Attachment E to this SOW (Protocols for PCB Spatial Averaging). The spatial average PCB concentrations will then be compared to the applicable Performance Standards to establish the need for Removal Actions. If Removal Actions are determined to be necessary for a given area, the spatial averaging methods described in Attachment E to this SOW will be used to support removal response design activities.

Based upon this spatial averaging, an evaluation will be made as to the areas and depths subject to soil removal to meet the PCB-related Performance Standards set out in Section 2.5.2. GE shall also evaluate the need for and extent of additional response actions to address non-PCB constituents in accordance with the Performance Standards relating to such constituents. GE shall report the results of these evaluations in the RD/RA Work Plan described in Section 3.4 below.

Following EPA approval of the RD/RA Work Plan for each Removal Action, as provided in Section 3.0, GE shall implement required Removal Action to achieve the Performance Standards set out in Section 2.5.2. As described in Section 2.1.4, excavated material will be placed in the on-plant consolidation areas, subject to the conditions and limitations set out in Section 2.1.4 of this SOW. Where soil replacement is called for by the Performance Standards, GE shall utilize backfill material (e.g., gravel, loam, etc.) that is appropriate for the given application and has been approved by the EPA based on representative sampling results provided by GE.

Restoration of areas affected by response activities shall, at a minimum, restore such areas to existing conditions, unless otherwise specified in the approved RD/RA work plans, and shall be performed to

minimize future and permanent disturbances to both wetland and non-wetland areas. Such measures will be incorporated into response design activities and will be presented in the technical RD/RA deliverables for each Removal Action. Restoration activities occurring within areas regulated as resource areas under the Massachusetts Wetlands Protection Act (310 CMR 10.0000) shall, to the maximum extent practicable, incorporate measures consistent with that Act (e.g., re-establishment of existing surface conditions, provision of flood storage compensation, etc.). Such measures will be developed based a pre-design site assessment which will evaluate the existing site conditions prior to performing the Removal Actions. This assessment will evaluate conditions such as topography, ground cover and vegetation, general soil conditions, and habitat viability. Details regarding such restoration activities will be presented in the technical RD/RA deliverables prepared for each Removal Action.

2.5.5 Post-Removal Site Control Activities

Following completion of the Removal Actions associated with the Housatonic River floodplain properties, GE shall perform Post-Removal Site Control activities. For the Housatonic River floodplain properties addressed in this section of the SOW, such activities shall consist of periodic inspections and maintenance of the backfilled/restoration areas, as described in Attachment J to this SOW (Future Inspection and Maintenance Activities).

2.6 Silver Lake

2.6.1 General

This section of the SOW sets forth the Performance Standards and other requirements that GE shall comply with in carrying out the Removal Action for the Silver Lake (Figure 2-25). For this Removal Action, specific Performance Standards have been established to address the presence of PCBs and non-PCB constituents in bank soils and sediments. These Performance Standards for the Silver Lake Area Removal Action are set forth in Section 2.6.2, while other requirements relating to Removal Actions at Silver Lake are discussed in Sections 2.6.3, 2.6.4, and 2.6.5. The Performance Standards and other requirements for natural resource restoration/habitat enhancement activities to be performed by GE, as part of the NRD settlement, in conjunction with response activities at the Silver Lake Area, are discussed in Section 2.8 below and in Attachment I to this SOW (Natural Resource Restoration/Enhancement Activities).

To demonstrate compliance with and to achieve the Performance Standards established for the Silver Lake Area Removal Action, GE shall prepare a series of technical RD/RA deliverables for EPA review, comment, and approval. These submittals are further described in Section 3.

2.6.2 Performance Standards for Removal Action

For the Removal Action at the Silver Lake Area, GE shall achieve the Performance Standards set forth in the CD for that Removal Action and the following Performance Standards:

Response Actions for PCBs in Bank Soils

1. Of the 11 currently residential properties abutting Silver Lake, as generally depicted on Figure 2-25, GE is currently addressing the following four properties separately from the CD, under MDEP oversight, as part of GE's off-site fill properties program: Parcels I9-9-26, I9-9-27, I9-9-28, and I9-9-29. For the remaining residential properties abutting Silver Lake, GE shall calculate spatial average PCB concentrations for the 0- to 1-foot and 1- to X-foot depth increments at the bank portion of each such property, where X equals the depth at which PCBs are detected (up to a maximum of 15 feet). If the spatial average PCB concentration in the 0- to 1-foot or 1- to X-foot depth increment exceeds 2 ppm, GE shall remove and replace bank soils as necessary to achieve a spatial average PCB concentration at or below 2 ppm in each of these depth increments at the bank portion of the property. Alternatively, GE may elect to address any of these properties comprehensively by removing and replacing soils as necessary to achieve a spatial average PCB concentration of 2 ppm or below in the 0- to 1-foot depth increment and the 1- to X-foot depth increment (where X equals the depth at which PCBs have been detected, up to a maximum of 15 feet) at the overall property provided that exposure to property soils is equally likely throughout the property (or, if not, at appropriate averaging areas at the overall property).

2. For the remaining bank areas around the perimeter of Silver Lake, which include five contiguous recreational averaging areas and the bank portions of 11 separately owned commercial/industrial properties, as depicted on Figure 2-25, GE shall use best efforts (as defined in the CD) to obtain EREs in accordance with Section XIII of the CD (unless the Performance Standards for residential use, as described in Standard #1 above, are met at such averaging area). If an ERE

cannot be obtained for the bank portion of such a property, GE shall implement a Conditional Solution for such bank portion, which shall achieve the Performance Standards for Conditional Solutions described below and in Paragraph 34 of the CD.

3. At the bank areas of non-residential properties referenced in Standard #2 above, as generally depicted on Figure 2-25, GE shall conduct the following response actions, based on spatial averaging of PCB concentrations in each recreational bank averaging area and the bank portion of each separate commercial/industrial property:

   a. For each such bank area for which an ERE is obtained in accordance with Standard #2 above, GE shall calculate the spatial average PCB concentrations for the 0- to 1-foot and 1- to 3-foot depth increments. If the spatial average PCB concentration exceeds 10 ppm in the top foot or 15 ppm in the 1- to 3-foot depth, GE shall remove and replace soils as necessary to achieve spatial average PCB concentrations at or below those levels in the increments specified.

   b. For each such bank area for which an ERE is not obtained, GE shall initially calculate a spatial average PCB concentrations for the 0- to 1-foot depth increment. If the spatial average PCB concentration exceeds 10 ppm in this depth increment, GE shall remove and replace soils as necessary to achieve a spatial average PCB concentration at or below 10 ppm in this increment. GE shall then calculate the spatial average PCB concentration for the 0- to 3-foot depth increment (incorporating the anticipated response actions, if any, to be performed for the 0- to 1-foot depth). If that spatial average exceeds 10 ppm, GE shall remove and replace soils as necessary to a achieve a spatial average PCB concentration at or below 10 ppm in the 0- to 3-foot depth increment. These actions shall be deemed a Conditional Solution under the CD, and GE shall also meet the other requirements set forth in Paragraphs 34-38 of the CD for Conditional Solutions.

Response Actions for Non-PCB Constituents in Bank Soils

4. To address the presence of Appendix IX+3 constituents other than PCBs in the bank soils at the Silver Lake Area, GE shall conduct an evaluation of such constituents for the bank portion of

each separately owned residential property addressed under Performance Standard #1, each separately owned industrial/commercial property and each recreational averaging area, as generally depicted on Figure 2-25. This evaluation shall be conducted in accordance with the protocols described in Attachment F to this SOW (Protocols for Evaluation of Non-PCB Constituents in Soil). The process-related Performance Standards for such evaluation shall be the same as those set forth in Performance Standard #21 for the GE Plant Area (in Section 2.2.2 above), with the addition that, for residential properties, GE shall use the Screening PRGs for residential areas, the EPA dioxin PRG of 1 ppb for residential areas, the MCP Method 1 S-1 soil standards, and a residential use scenario for any property- or area-specific risk evaluation conducted.

5. If the evaluation described in Standard #4 above indicates the need for further response actions to address non-PCB constituents at a given property or area, GE shall develop, for EPA review and approval, specific Performance Standards for such response actions. Such Performance Standards shall be based on achieving the following in the soils that will be present at the property or area after performance of the soil removal/replacement activities to address PCBs:

   a. For dioxin/furan TEQs, either maximum or 95% UCL TEQ concentrations that do not exceed the applicable EPA PRGs for dioxin; and

   b. For other constituents, any combination of the following: (i) maximum concentrations of individual constituents that do not exceed the applicable Screening PRGs; (ii) concentrations of individual constituents that are consistent with background levels (using an appropriate statistical technique or summary statistics); or (iii) for the remaining constituents (if any), either (A) average concentrations that do not exceed the applicable Method 1 (or 2) soil standards, or (B) cumulative risk levels that do not exceed (after rounding) an ELCR of 1×10^{-5} and a non-cancer Hazard Index of 1.

GE shall then propose and, upon EPA approval, undertake additional response actions as necessary to achieve those Performance Standards.

Response Actions for Sediments

6. GE shall remove a maximum of 400 in-situ cubic yards of Silver Lake sediments from an area in the general vicinity of the existing outfall from the GE Plant to the lake, as generally depicted on Figure 2-25. Following such removal, GE shall replace the removed sediments and restore and vegetate that portion of the affected area that is not underwater, in coordination with the installation of a sediment cap for the entire lake bottom, as described in Standard #7 below, and in coordination with the natural resource restoration/enhancement activities described in Attachment I to this SOW.

7. GE shall install a cap over the entire bottom of Silver Lake. This cap shall achieve specified design standards as described in Attachment K to this SOW (Silver Lake Sediment Response Action Conceptual Design). As discussed in Attachment K, these design standards have been developed to achieve, over time, specific risk-based Preliminary Response Action Goals (PRAGs) for PCBs, which are also set forth in Attachment K, using predictive methods to assess the effectiveness of the capping system to achieve those PRAGs. The design standards, which shall constitute the Performance Standards for the Silver Lake capping system, are as follows:

   a. The cap shall include an isolation layer positioned directly above the sediments over the entire lake bottom. This layer shall consist of silty sand, with a presumptive thickness of 10 inches, if geotextile is placed between the sediments and the cap (or 12 inches, installed in two six-inch lifts, if a geotextile is not placed between the sediments and the cap), an organic carbon content of 0.5 percent (as total organic carbon), and concentrations of PCBs at non-detectable levels and other constituents at background levels, as approved by EPA. The presumptive thickness of the cap shall be based on use of a presumptive 6-inch isolation layer to control PCB migration from the underlying sediments to the surface water of the lake, plus an additional 4 inches of silty sand if geotextile is placed between the sediments and the cap (or an additional 6 inches of silty sand if such a geotextile is not used) to account for uncertainties associated with bioturbation and mixing. GE shall perform pre-design investigations to confirm the design parameters which support the presumptive thickness and organic carbon content of the isolation layer, as described in Attachment K. If those pre-design

investigations confirm the design parameters presented in Attachment K, then the isolation layer will consist of a sandy silt layer with a thickness of 10 inches, if a geotextile is placed between the sediments and the cap (or 12 inches, installed in two six-inch lifts, if a geotextile is not placed over the sediments), and an organic content of 0.5 percent (as total organic carbon). If the pre-design investigations indicate that a thicker cap and/or a higher organic content is necessary, then the cap thickness and/or organic content will be modified using revised input parameters based on the results of the pre-design investigations and the procedures/equations presented in Exhibit K-1 of Attachment K. GE shall ensure that the design cap thickness is achieved over the entire bottom of the lake.

b. The capping system shall also include an overlying armoring layer of stone, incorporated along the shoreline as necessary to prevent erosion of the isolation layer due to wind-induced wave action.

8. As part of Post-Removal Site Control activities, GE shall conduct periodic inspections and monitoring to assess the effectiveness of the cap in meeting the specified design standards, as provided in Attachment K. These activities shall include monitoring of the cap to ensure maintenance of the design cap thickness, sampling of the isolation layer to monitor its long-term effectiveness in controlling PCB migration from the underlying sediments, and monitoring of the shoreline armor layer to ensure that it is effectively preventing erosion.

a. If the periodic inspections and monitoring of the cap thickness and the shoreline armoring layer indicate that the design standards for those components of the capping system are not achieved or maintained, GE shall evaluate and propose to EPA appropriate corrective actions to achieve those design standards, and shall implement such corrective actions upon approval by EPA.

b. If the sampling of the isolation layer indicates that layer is not performing in general accordance with the predictions on which the isolation layer design was based in terms of controlling PCB migration from the underlying sediments into the surface water of the lake, GE shall evaluate corrective actions, shall submit the results of such evaluation

to EPA for approval, and shall implement such corrective actions (if any) upon approval by EPA.

c. If these periodic inspection/monitoring activities indicate that the capping system is continuing to achieve the design standards and is performing as generally predicted in terms of controlling PCB migration from the underlying sediments into the surface water of the lake, then no further response actions shall be necessary for the isolation layer or shoreline armoring layer, except as otherwise required pursuant to Section XIX (Emergency Response) or Paragraphs 162, 163, 167, and/or 168 (re-openers) of the Consent Decree.

9. In addition, if the periodic sampling of the cap indicates the deposition of PCBs on the surface of the cap (as opposed to migration of PCBs through the cap from the underlying sediments), GE shall evaluate, to the extent practical, whether such PCBs are attributable to sources other than erosion or surface runoff from the banks or currently known discharges of PCBs into the lake from NPDES-permitted to other outfalls. If the surface PCBs can be attributed to such other sources and such sources are located within property owned by GE, GE shall evaluate potential source control measures and shall submit a report on such evaluation, along with a recommendation for any appropriate source control measures, to EPA for review and approval. Otherwise, no further response actions shall be required to address such deposition of PCBs on the surface of the cap, except for any activities required by Attachment K to address erosion, and except as otherwise required pursuant to Section XIX (Emergency Response) or Paragraphs 162, 163, 167, and/or 168 (re-openers) of the Consent Decree.

2.6.3 Additional Pre-Design Field Investigations

Prior to the performance of detailed and comprehensive RD/RA activities for the Silver Lake Area Removal Action, GE shall conduct certain pre-design activities. These activities shall include the conduct of pre-design investigations to further characterize existing site conditions, satisfy certain investigation-related requirements presented in the CD and this SOW, and serve as the basis for the development of RD/RA activities to achieve the Performance Standards set forth above. For bank soils, additional soil sampling shall be conducted as necessary to support spatial averaging of PCB concentrations and to apply the Performance Standards set forth in this SOW. Grid sampling techniques consistent with those

to be utilized at the GE Plant Area and Former Oxbow RAAs will be evaluated and utilized as appropriate. For sediments, additional sampling will be conducted to support response actions identified in Performance Standard #6.

A Pre-Design Work Plan shall be prepared pursuant to the requirements of Section 3.0 of this SOW. That plan will include, among other things, a summary of available site information to support future RD/RA activities (including a data quality assessment of the historical data and a proposal as to which such data are of adequate quality to be used) and an assessment of additional information needs to achieve the Performance Standards established for the Silver Lake Area Removal Action.

2.6.4 Design and Implementation of Removal Action

The Removal Action for the Silver Lake Area shall be based on the Performance Standards identified in the CD and this SOW and shall incorporate information available from prior investigations (to the extent such historical data are determined to be of adequate quality for usage) and the pre-design activities described above. For PCBs in bank soils, such available information will be utilized to estimate spatial average PCB concentrations under existing conditions for the bank portions of each residential property addressed under this SOW, each commercial property, and each recreational averaging area, as described in Performance Standards #1 and #3 in Section 2.6.2 above. The results of these calculations will serve as the basis for determining the need for and scope of response actions to address PCBs in bank soils. Specifically, the spatial average PCB concentrations developed for the various residential, commercial, and recreational bank soils will be compared to the applicable Performance Standards. If response actions are determined to be necessary for a given area, GE shall use the spatial averaging methods described in Attachment E to this SOW (Protocols for PCB Spatial Averaging) to support RD/RA activities.

Based upon this spatial averaging, GE shall evaluate the scope of bank soil removal/replacement activities necessary to meet the Performance Standards in Section 2.6.2 for PCBs in bank soils. GE shall evaluate the need for and extent of additional response actions to address non-PCB constituents in bank soils in accordance with the Performance Standards relating to such constituents in bank soils. GE shall report the results of these evaluations in the Conceptual RD/RA Work Plan, as discussed in Section 3.3 below.

In addition, the Conceptual RD/RA Work Plan will present additional details regarding the design of the Silver Lake sediment cap and a more detailed set of design standards for the cap, as discussed in Attachment M to this SOW (Silver Lake Sediment Response Action Conceptual Design).

Following EPA approval of the Conceptual RD/RA Work Plan and subsequently the RD/RA Work Plan, as provided in Section 3.0, GE shall carry out the required Removal Action to achieve the Performance Standards set out in Section 2.6.2. As described in Section 2.1.4, excavated materials may be placed in the on-plant consolidation areas, subject to the conditions and limitations set out in Section 2.1.4 of this SOW. Where soil or sediment replacement is called for by the Performance Standards, GE shall utilize backfill material (e.g., gravel, loam, etc.) that is appropriate for the given application and has been approved by the EPA based on representative sampling results provided by GE.

Restoration of bank areas affected by response activities shall, at a minimum, restore such areas to existing conditions unless otherwise provided in the RD/RA work plans, and shall be performed to stabilize the banks and minimize erosion, re-establish the vegetation and habitat quality of the banks (consistent with the natural resource restoration enhancement projects described in Section 2.8 and Attachment I), and minimize future disturbances to the banks. Such restoration measures will be developed based on a pre-design site assessment, which will evaluate existing conditions of the banks, such as topography, ground cover and vegetation, and habitat quality. In addition, GE will develop restoration measures for the lake bottom after capping, to be consistent with the natural resource restoration enhancement projects described in Section 2.8 and Attachment I to this SOW. The details of the restoration measures for Silver Lake will be incorporated into RD/RA activities and will be presented in the technical RD/RA deliverables for the Silver Lake Area Removal Action.

2.6.5 Post-Removal Site Control Activities

Following completion of the Silver Lake Area Removal Action, GE shall perform Post-Removal Site Control activities. For the Silver Lake Area, these activities shall include periodic inspections, monitoring, and sampling of the sediment capping system -- including monitoring of the cap to ensure maintenance of the final design cap thickness, sampling of the isolation layer to assess its long-term effectiveness in controlling PCB migration from the underlying sediments and to assess the deposition of PCBs on the surface of the cap, and monitoring of the shoreline armor layer to ensure that it is effectively preventing erosion -- in accordance with the protocols described in Attachment K to this

SOW. Based on the results of these periodic inspection, monitoring , and sampling activities, GE shall, when necessary in accordance with Performance Standards #8 and #9 in Section 2.6.2 and the pertinent requirements of Attachment K, evaluate appropriate corrective actions in accordance with and subject to those Performance Standards and requirements, submit the results of that evaluation along with any proposed corrective actions to EPA for review and approval, and implement such corrective actions (if any) upon EPA approval.

For the properties adjacent to Silver Lake addressed in this section of the SOW, GE shall perform periodic inspection and maintenance of the backfilled/restored bank areas, as described in Attachment J to this SOW (Future Inspection and Maintenance Activities).

2.7 Requirements and Performance Standards Relating to Groundwater/NAPL Removal Actions

GE has installed and continues to operate a number of systems at the GE Plant Area and certain Former Oxbow Areas to address NAPL and groundwater. These include NAPL containment/recovery systems, with associated groundwater treatment facilities, at the East Street Area 2-South, East Street Area 1, and Lyman Street Area RAAs. These systems are described in Attachment H to this SOW (Groundwater/NAPL Monitoring, Assessment, and Response Programs). To supplement these measures, GE has installed or proposed to install additional NAPL containment/recovery measures, including sheetpiling, in two areas at East Street Area 2-South (i.e., in the Building 68 area and in the vicinity of existing oil recovery system 64V and the nearby former riverbank seep area) and at the Lyman Street Area, as well as a recovery system for dense non-aqueous-phase liquid (DNAPL) at Newell Street Area II. These supplemental NAPL containment/recovery systems and activities are described in the work plans contained in Annex 2 to this SOW. The Performance Standards for such systems and activities are also set forth in those work plans and associated EPA conditional approval letters included in Annex 2.

As part of the Removal Actions Outside the River, GE shall conduct a number of Removal Actions related to groundwater and NAPL. These Removal Actions shall consist of the following activities:

GE shall complete the installation of the supplemental NAPL containment/recovery systems (described above) at East Street Area 2-South, the Lyman Street Area, and Newell Street Area II, and shall continue to operate and maintain those systems, in accordance with the work plans contained in Annex 2, as

approved or conditionally approved by EPA. GE shall attain the Performance Standards for these systems as set forth in those work plans and approval/conditional approval letters.

GE shall also implement groundwater/NAPL monitoring, assessment, and response programs at a number of specified groupings of RAAs, referred to as GMAs. These GMAs consist of the following, as described further in Attachment H to this SOW:

- Plant Site 1 GMA (including the 40s Complex, 30s Complex, 20s Complex, East Street Area 2-South, East Street Area 2 - North, East Street Area 1- North, East Street Area 1- South, Lyman Street Area, Newell Street Area II, Newell Street Area I, and Silver Lake Area);

- Former Oxbows J and K GMA (including Former Oxbow Areas J and K);

- Plant Site 2 GMA (including the portion of the Unkamet Brook Area east of Plastics Avenue);

- Plant Site 3 GMA (including the Hill 78 Consolidation Area, the Building 71 Consolidation Area, the Hill 78 Area - Remainder, and the portion of the Unkamet Brook Area west of Plastics Avenue); and

- Former Oxbows A and C GMA (including Former Oxbow Areas A and C).

For each GMA, GE shall implement and continue to operate the groundwater/NAPL monitoring, assessment, and response programs described in Attachment H to this SOW in accordance with the requirements set forth in Attachment H, and shall achieve the following Performance Standards:

Performance Standards for Groundwater Quality

1. At certain of the monitoring wells designated as compliance points to assess groundwater conditions within 15 feet of the ground surface and within 30 feet of an existing occupied building (GW-2 groundwater), groundwater quality shall achieve either: (a) the Method 1 GW-2 groundwater standards set forth in the Massachusetts Contingency Plan (MCP), which have been developed for groundwater that is a potential source of hazardous vapors to indoor air in nearby occupied buildings, or, for particular constituents for which no such standards exist,

Method 2 GW-2 standards developed using procedures set forth in the MCP or approved by EPA; or (b) alternative risk-based GW-2 groundwater standards developed by GE using appropriate MCP or EPA risk assessment guidance and approved by EPA as protective against unacceptable risks due to volatilization and transport of chemicals from groundwater into the indoor air of nearby occupied buildings; or (c) a condition, based upon a demonstration approved by EPA, in which constituents in the groundwater do not pose an unacceptable risk to occupants of nearby occupied buildings via volatilization and transport to the indoor air of such buildings.

2. For all groundwater at and related to these GMAs, groundwater quality shall achieve the following standards at the perimeter monitoring wells designated as compliance points for such standards, as described in Attachment H to this SOW: either (a) the Method 1 GW-3 groundwater standards set forth in the MCP, which have been developed for groundwater that is a potential source of discharge to surface water, or, for particular constituents for which no such standards exist, Method 2 GW-3 standards developed using procedures set forth in the MCP or approved by EPA; or (b) alternative risk-based GW-3 standards proposed by GE and approved by EPA as protective against unacceptable risks in surface water due to potential migration of constituents in groundwater.

Performance Standards for NAPL

3. GE shall install and maintain NAPL containment measures as necessary to ensure that there is no discharge of NAPL to surface waters and/or sediments, including no sheens on surface water and no bank seeps of NAPL.

4. For areas near surface waters in which there is no physical containment barrier between the monitoring wells and the surface water, GE shall eliminate measurable NAPL in wells near the surface water bank that could potentially discharge NAPL into the surface water, in order to prevent such discharge and to assist in achieving groundwater quality Performance Standards.

5. For NAPL areas not located adjacent to surface waters, GE shall reduce the amount of measurable NAPL to levels which eliminate the potential for NAPL migration toward surface

water discharge areas or beyond GMA boundaries, and which assist in achieving groundwater quality Performance Standards.

6. For areas adjacent to physical containment barriers, GE shall prevent any measurable NAPL migration around the physical containment barriers.

7. At certain of the monitoring wells designated as compliance points to assess groundwater conditions within 30 feet of an existing occupied building and the average depth to groundwater is 15 feet or less, GE shall demonstrate, or take action to ensure, that constituents present in any NAPL detected in such wells do not pose an unacceptable risk to occupants of such building via volatilization and transport to the indoor air of such building.

These Performance Standards and the steps that GE shall take to monitor for and achieve them are described further in Attachment H to this SOW.

2.8 Natural Resource Restoration/Enhancement Activities

Pursuant to the NRD provisions (Section XXI) of the CD, GE shall implement a number of specific natural resource restoration/enhancement projects at the GE Plant Area, the Former Oxbow Areas, and the Silver Lake Area, as well as at an Off-Site Restoration Area described in Attachment I to this SOW (Natural Resource Restoration/Enhancement Activities). These projects will be implemented in connection with the response activities at the RAAs involved (where applicable). The Performance Standards and other requirements for these natural resource restoration/enhancement projects are set forth in detail in Attachment I to this SOW. GE shall design, install, monitor, and maintain these projects in accordance with the requirements contained in Attachment I, and shall achieve the Performance Standards set forth in Attachment I, which are incorporated by reference herein.

3.0 REMOVAL DESIGN AND REMOVAL ACTION ACTIVITIES

3.1 General

GE shall design, implement, manage, and document the Removal Actions Outside the River pursuant to the CD and this SOW. For each Removal Action, GE shall prepare a series of technical submittals for EPA review, comment, and approval. Collectively, these submittals represent the Removal Design/Removal Action (RD/RA) activities necessary to achieve the Performance Standards established in the CD and this SOW. (In addition, ERE-related documents shall be submitted in accordance with the requirements of Section XIII of the CD.)

This section of the SOW describes the overall guidelines for the performance of future RD/RA activities for each Removal Action other than those relating to groundwater and NAPL. The required RD/RA submittals for the Removal Actions relating to groundwater and NAPL are described in Attachment H to this SOW. The information presented in this section is general and subject to modifications and/or further development as RD/RA activities are performed for each Removal Action. Such modifications and/or further developments will be presented in the various technical submittals associated with each Removal Action. Further, since the scope and schedule of the RD/RA activities for each Removal Action will vary (based on the complexity of current site conditions and applicable Performance Standards), interim RD/RA submittals or updates may be necessary as discussed below.

The requirements set forth in Sections 3.2, 3.3, and 3.4 of this section (relating to a Pre-Design Work Plan, a Conceptual RD/RA Work Plan, and a detailed RD/RA Work Plan) shall not apply to any Removal Action for which such plans have already been submitted to and approved by EPA. These include the Removal Actions for the Hill 78 Consolidation Area and the Building 71 Consolidation Area RAAs (see Annex 1) and the Removal Action for the Allendale School Property (see Annex 3).

3.2 Pre-Design Work Plan

For each Removal Action (other than those noted above and those relating to groundwater and NAPL), GE shall prepare a Pre-Design Work Plan (PDWP) in accordance with the schedule presented in Attachment A to this SOW (Schedule for Initial Removal Design/Removal Action Submittals) to address, as necessary, information concerning the following topics:

- Site description and pertinent site background;

- Removal Action Performance Standards;

- Performance Standards for any natural resource restoration/enhancement activities to be conducted at the RAA in question;

- Summary of information currently available to support RD/RA activities;

- Assessment of current investigation, design, and construction data needs;

- Description of additional pre-design investigations/studies to address current data needs, incorporating existing data determined to be of sufficient quality to be useable and ongoing investigations;

- Schedule for performing pre-design activities; and

- Summary of anticipated Post-Removal Site Control activities following completion of the Removal Action.

Following submittal of a PDWP and subsequent EPA approval of that plan, GE shall implement the investigations in accordance with the schedule identified in the PDWP and approved by EPA (provided that for those PDWPs that are required to be submitted after lodging but prior to entry of the CD, GE shall not be required to implement the investigations described therein until after entry of the CD). Following completion of pre-design activities, GE shall prepare a report summarizing the results of the pre-design activities. This report will also consider the sufficiency of the available data in terms of supporting subsequent RD/RA activities, and whether any additional or remaining data needs are present. The summary report shall also contain a proposal, if necessary, for further studies/investigations, as well as a schedule for subsequent submission of either a supplemental investigations summary report and/or submittals associated with the RD/RA process.

3.3 Conceptual Removal Design/Removal Action Work Plan

Following EPA approval of the pre-design summary report (and any supplemental report) and prior to the submittal of the RD/RA Work Plan, GE shall submit conceptual design information for each Removal Action, except those at the floodplain properties. This information will be submitted (in accordance with a schedule proposed to and approved by the EPA) in a Conceptual RD/RA Work Plan following completion of pre-design activities and related reporting and when design activities are approximately 30% complete.

The Conceptual RD/RA Work Plan shall include or discuss, at a minimum, the following:

- Results of pre-design studies/investigations;
- An evaluation of the areas and depths subject to response actions to meet the PCB-related Performance Standards set forth in this SOW;
- An evaluation of the need for additional response actions to address non-PCB constituents, and (if needed) the type of such response actions;
- A further description of the activities necessary to meet the Performance Standards for natural resource restoration/enhancement activities (if any) at the RAA in question;
- An evaluation of other issues that may affect the type and extent of response actions (e.g., groundwater, NAPL);
- Preliminary plans and specifications to support the response actions;
- Summary of preliminary response action quantities, including soil removal, capping areas, etc.;
- Design assumptions and parameters; and
- An identification of Applicable or Relevant and Appropriate Requirements (ARARs) in accordance with Attachment B to this SOW.

3.4 Removal Design/Removal Action Work Plan

Following EPA approval of the Conceptual RD/RA Work Plan (where applicable), GE shall submit a Removal Design/Removal Action (RD/RA) Work Plan for each Removal Action, in accordance with a schedule proposed to and approved by the EPA. The RD/RA Work Plan will include a detailed description regarding design and implementation of the proposed response action activities. Included in the RD/RA Work Plan shall be the same information listed in Section 3.3 above concerning the conceptual design information (with updates as appropriate based on further design activities and/or EPA comments), as well as the following additional information:

- Detailed design of the response actions;
- Description of other implementation details concerning performance of the response actions;
- Summary of anticipated Post-Removal Site Control activities following completion of the Removal Action;
- Identification of Removal Action team, including key personnel, roles and responsibilities, lines of authority;
- Process for selection of Removal Action contractor, if not already selected;
- Schedule;
- Construction Quality Assurance Plan; and
- Project closeout requirements.

The RD/RA Work Plan shall include a project schedule for each major activity and submission of deliverables. Removal Action-specific implementation details will be presented in the RD/RA Work Plan, including scheduling, project-specific submittals, work area security, points of contact, and site-specific updates (if any) to the Project Operations Plan (e.g., HASP).

3.5 Removal Action Construction Activities

Following EPA approval of the RD/RA Work Plan, GE shall implement each Removal Action as detailed in the approved final design. In addition to the performance of the EPA-approved response actions and related activities, the following will be performed:

- Preconstruction Inspection and Meeting;
- Prefinal Inspection; and
- Final Inspection.

During the performance of each Removal Action, GE shall communicate the status of the response activities through the various reporting mechanisms presented in the CD (i.e., monthly status reports).

In the event that site conditions other than those anticipated are encountered and require a modification to or deviation from the EPA-approved response actions, GE will promptly notify EPA of the conditions, and present a plan for follow-up evaluation and design modifications, if necessary. Design modifications shall be clearly documented and shall be subject to EPA review and approval.

3.6 Final Completion Report

Following the performance of each Removal Action, GE will prepare a Final Completion Report (in accordance with a schedule proposed to and approved by the EPA) that will include the following information:

- Description of the response activities performed;
- Any deviations from the design submittals as approved by EPA;
- A listing of response action quantities, including soil volumes, capping areas, etc.;
- Results of QA/QC testing performed during response actions;

- As-built construction drawings (including post-response action topographic surveys);
- Representative project photographs;
- Records of off-site waste disposal, if any; and
- A summary of Post-Removal Site Control activities associated with each Removal Action.

The Final Completion Report shall provide a comparison of the executed response actions with the applicable Performance Standards established in this SOW. As needed, supporting evaluations and calculations should be presented.

3.7 Post-Removal Site Control Activities

Following the performance of each Removal Action (other than those related to groundwater and NAPL), GE shall perform Post-Removal Site Control activities at and related to the RAA for which the Removal Action was performed. These activities shall include inspection, maintenance, and repair of the engineered barriers, landfill caps, other surface covers, and backfilled/restored areas, as generally described in Attachment J to this SOW (Future Inspection and Maintenance Activities). As part of the RD/RA submittals for each Removal Action, GE shall prepare and submit to EPA for approval a Post-Removal Site Control Plan, which will identify the anticipated inspection, maintenance, and repair activities for the response actions undertaken as part of that Removal Action, and provide details as to how such activities will be conducted in a manner that is protective of human health and the environment.

Further, as a component of the RD/RA submittals for each RAA where natural resource restoration/habitat enhancement activities will be implemented, GE shall prepare and submit to the Trustees for approval a Restoration Project Monitoring and Maintenance Plan, which shall describe the future monitoring and maintenance activities for the natural resource restoration/enhancement measures implemented at that RAA, as provided in Attachment I to this SOW (Natural Resource Restoration/Enhancement Activities).

Following completion of the Removal Actions (other than those related to groundwater and NAPL), the individual Post-Removal Site Control Plans will be combined into a single Post-Removal Site Control Plan

to serve all areas subject to the Removal Actions Outside the River, as well as the Upper ½ Mile Reach of the Housatonic River. Included in that plan will be a summary of the type and frequency of inspection, maintenance, and monitoring activities. Subsequently, GE shall prepare on a annual basis a summary of all Post-Removal Site Control activities conducted during the preceding year. Included in that summary report will be the following:

- A description of the type and frequency of inspection and maintenance activities conducted;

- A description of any significant modifications of the inspection and maintenance programs made since the submission of the preceding monitoring report;

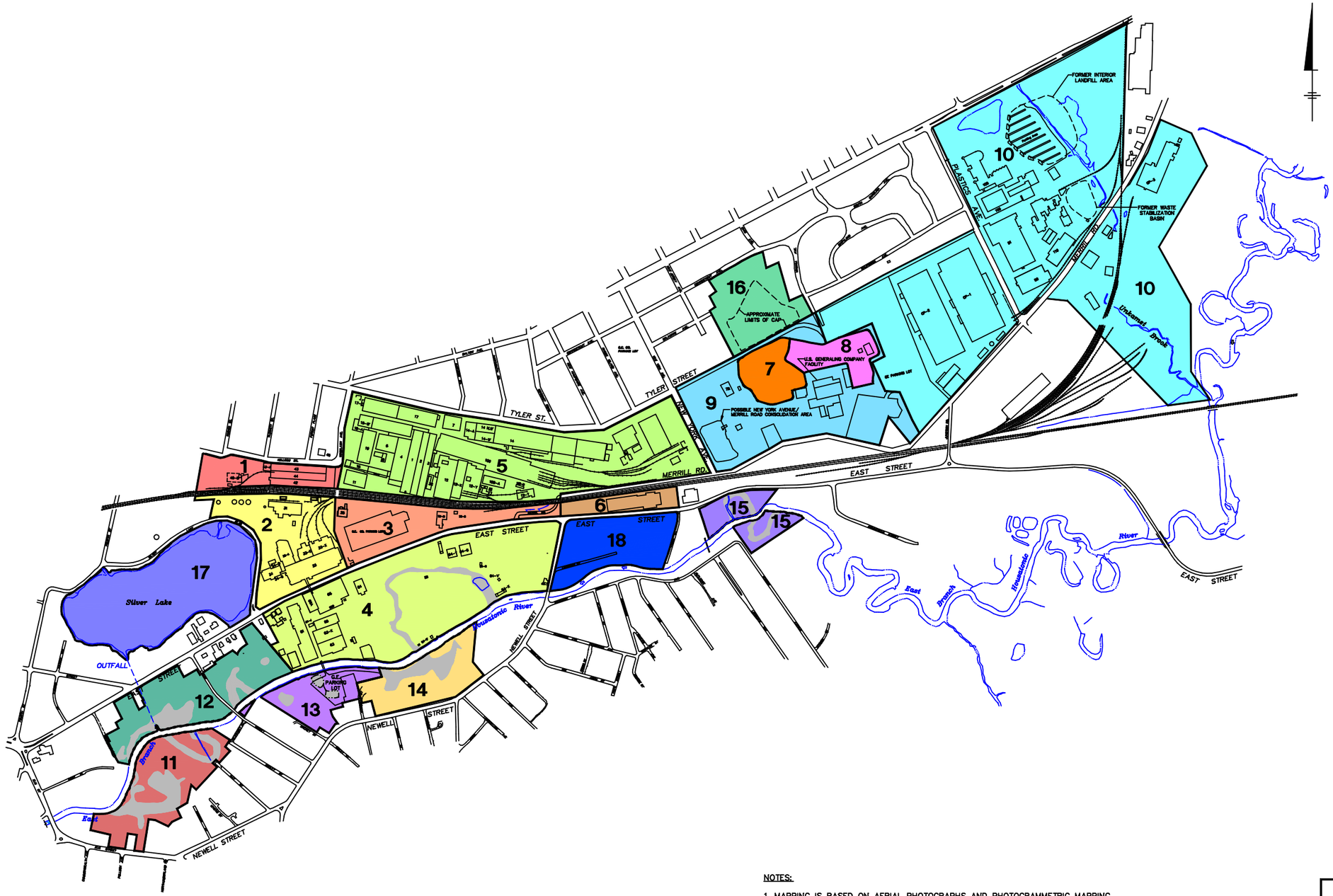
- A description of any conditions or problems noted during the inspection period which are or may be affecting the performance of the response actions; and

- A description of any measures taken to correct conditions which are affecting the performance of the response actions.

Similarly, following implementation of the natural resource restoration/enhancement measures at all RAAs, the individual Restoration Project Monitoring and Maintenance Plans will be combined into a single Restoration Project Monitoring and Maintenance Plan to serve all the relevant RAAs. That plan shall include the same types of information described above for the combined Post-Removal Site Control Plan.

In addition to these Post-Removal Site Control and Restoration Project Monitoring and Maintenance activities, GE shall continue, following completion of these Removal Actions, to operate its NAPL containment/recovery and associated groundwater treatment systems and its groundwater/NAPL monitoring, assessment, and response programs as necessary to comply with the requirements of Attachment H to this SOW (Groundwater/NAPL Monitoring, Assessment, and Response Program). These activities shall be conducted as part of the Removal Actions related to groundwater and NAPL at the GMAs identified in Attachment H until the Performance Standards for such Removal Actions set forth in Section 2.7 and Attachment H are achieved.

Figures



GENERAL ELECTRIC PLANT AREA

1 40s COMPLEX
2 30s COMPLEX
3 20s COMPLEX
4 EAST STREET AREA 2–SOUTH
5 EAST STREET AREA 2–NORTH
6 EAST STREET AREA 1– NORTH
7 HILL 78 CONSOLIDATION AREA
8 BUILDING 71 CONSOLIDATION AREA
9 HILL 78 AREA–REMAINDER
10 UNKAMET BROOK AREA

FORMER OXBOW AREAS

11 FORMER OXBOW AREAS A AND C
12 LYMAN STREET AREA
13 NEWELL STREET AREA II
14 NEWELL STREET AREA I
15 FORMER OXBOW AREAS J AND K

OTHER AREAS

16 ALLENDALE SCHOOL PROPERTY
17 SILVER LAKE AREA
18 EAST STREET AREA 1– SOUTH (NAPL/GROUNDWATER ONLY)

0 500' 1000'
APPROXIMATE SCALE

NOTES:

1. MAPPING IS BASED ON AERIAL PHOTOGRAPHS AND PHOTOGRAMMETRIC MAPPING BY LOCKWOOD MAPPING, INC. – FLOWN IN APRIL 1990; DATA PROVIDED BY GENERAL ELECTRIC COMPANY; AND BLASLAND AND BOUCK ENGINEERS, P.C. P.C. CONSTRUCTION PLANS.
2. NOT ALL PHYSICAL FEATURES SHOWN.
3. SITE BOUNDARIES/LIMITS ARE APPROXIMATE.
4. REFER TO FIGURE 1–2 FOR IDENTIFICATION OF REMOVAL ACTION AREAS RELATED TO THE HOUSATONIC RIVER FLOODPLAIN.

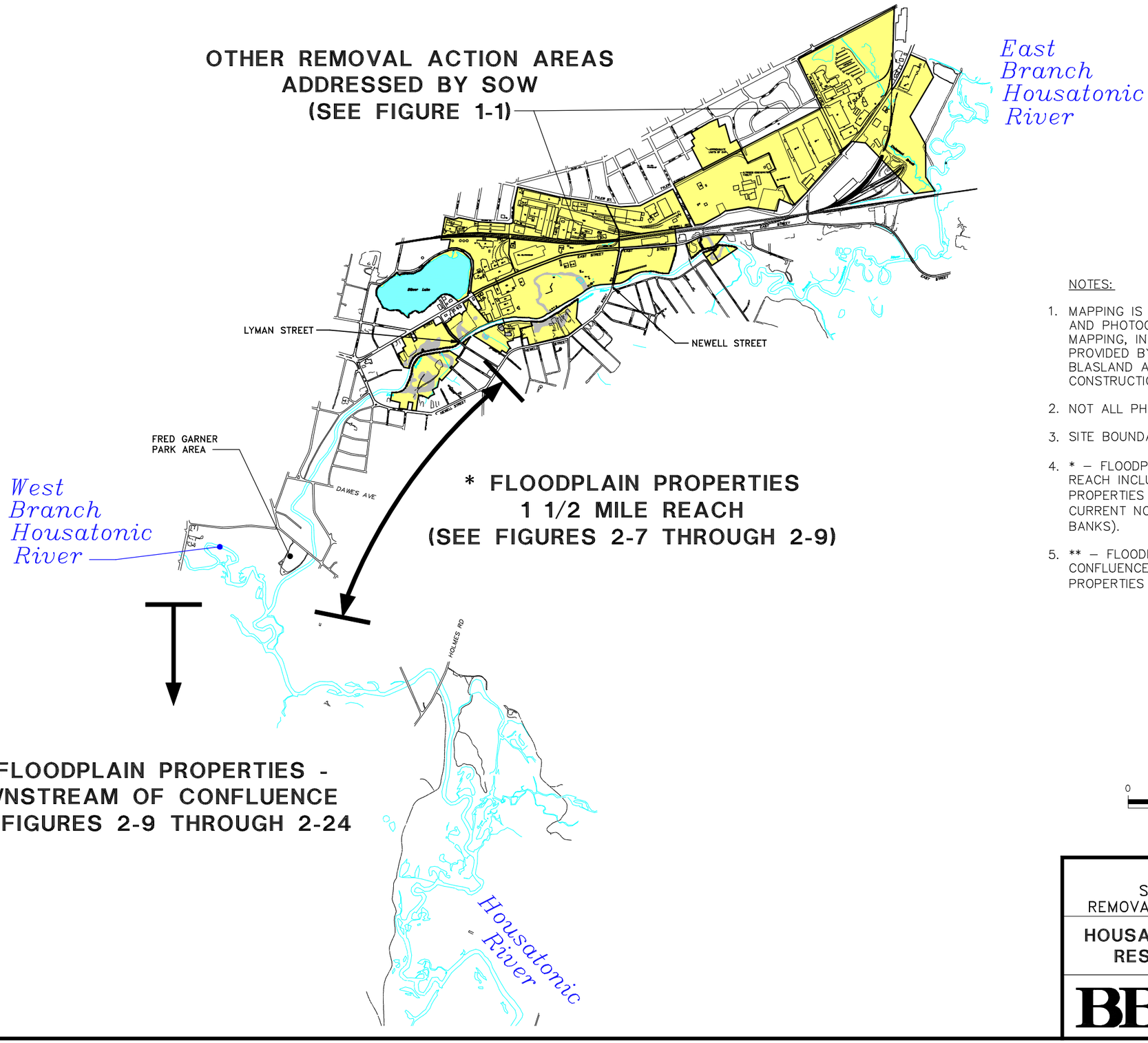
L: ON=*, OFF=REF
P: STD–PCP/DL
9/10/99 SYR–54–YCC GMS NES
20140003/REM–OU/20140SM4.DWG

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
STATEMENT OF WORK FOR
REMOVAL ACTIONS OUTSIDE THE RIVER

REMOVAL ACTION AREAS

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE 1-1



NOTES:

1. MAPPING IS BASED ON AERIAL PHOTOGRAPHS AND PHOTOGRAMMETRIC MAPPING BY LOCKWOOD MAPPING, INC. – FLOWN IN APRIL 1990; DATA PROVIDED BY GENERAL ELECTRIC COMPANY; AND BLASLAND AND BOUCK ENGINEERS, P.C. CONSTRUCTION PLANS.
2. NOT ALL PHYSICAL FEATURES SHOWN.
3. SITE BOUNDARIES ARE APPROXIMATE.
4. * – FLOODPLAIN PROPERTIES ALONG 1–1/2 MILE REACH INCLUDE CURRENT RESIDENTIAL PROPERTIES (ACTUAL/POTENTIAL LAWNS) AND CURRENT NON–RESIDENTIAL AREAS (EXCLUDING BANKS).
5. ** – FLOODPLAIN PROPERTIES DOWNSTREAM OF CONFLUENCE INCLUDE CURRENT RESIDENTIAL PROPERTIES (ACTUAL/POTENTIAL LAWNS).

0 2000' 4000'

APPROXIMATE GRAPHIC SCALE

L: ON=*, OFF=*REF*
P: STD–PCP/D2BL.PCP
9/10/99 SYR–54–NES GMS NES
20140003/REM–OU/20140B05

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
STATEMENT OF WORK FOR
REMOVAL ACTIONS OUTSIDE THE RIVER

HOUSATONIC RIVER FLOODPLAIN RESPONSE ACTION AREAS

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE 1-2

EAST STREET AREA 2 - NORTH

EAST STREET AREA 1 - NORTH

20s COMPLEX

30s COMPLEX

40s COMPLEX

EAST STREET AREA 1 - SOUTH

ONLY NAPL/GROUNDWATER WITHIN THIS AREA SUBJECT TO THIS STATEMENT OF WORK. SOIL WITHIN THIS AREA TO BE ADDRESSED UNDER STATE ADMINISTRATIVE CONSENT ORDER

POTENTIAL FUTURE CITY RECREATIONAL AREA

EAST STREET AREA 2 - SOUTH

200-FOOT RIPARIAN REMOVAL ZONE

LEGEND:

- APPROXIMATE REMOVAL ACTION AREA BOUNDARY
- FENCE
- 100-YEAR FLOODPLAIN BOUNDARY (DASHED WHERE TOPOGRAPHY IS INFERRED)
- UNPAVED AREA
- PAVED AREA
- RECHARGE POND
- APPROXIMATE LIMITS OF 200-FOOT RIPARIAN REMOVAL ZONE

NOTES:

1. MAPPING IS BASED ON AERIAL PHOTOGRAPHS AND PHOTOGRAMMETRIC MAPPING BY LOCKWOOD MAPPING, INC. -FLOWN IN APRIL 1990; DATA PROVIDED BY GENERAL ELECTRIC COMPANY; AND BLASLAND, BOUCK & LEE, INC. (BBL) CONSTRUCTION PLANS, AND ON OBSERVATIONS DURING A SITE VISIT BY BBL PERSONNNEL ON DECEMBER 3, 1997.
2. SITE BOUNDARIES ARE APPROXIMATE.
3. NOT ALL PHYSICAL FEATURES SHOWN.
4. EXTENT OF PAVED/UNPAVED AREAS IS APPROXIMATE.
5. 100-YEAR FLOODPLAIN BOUNDARY IS BASED ON FLOOD ELEVATIONS PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY: "FLOOD INSURANCE STUDY" - CITY OF PITTSFIELD, MASSACHUSETTS" JANUARY 16, 1987; AND "FLOOD INSURANCE RATE MAP - CITY OF PITTSFIELD, MASSACHUSETTS" (PANELS 250037 0010C AND 25037 0020C), FEBUARY 19, 1982, AND TWO-FOOT CONTOUR TOPOGRAPHIC MAPPING GENERATED PHOTOGRAMETRICALLY IN 1990 AT A BASE SCALE OF 1:2,400.

0 400' 800'

GRAPHIC SCALE

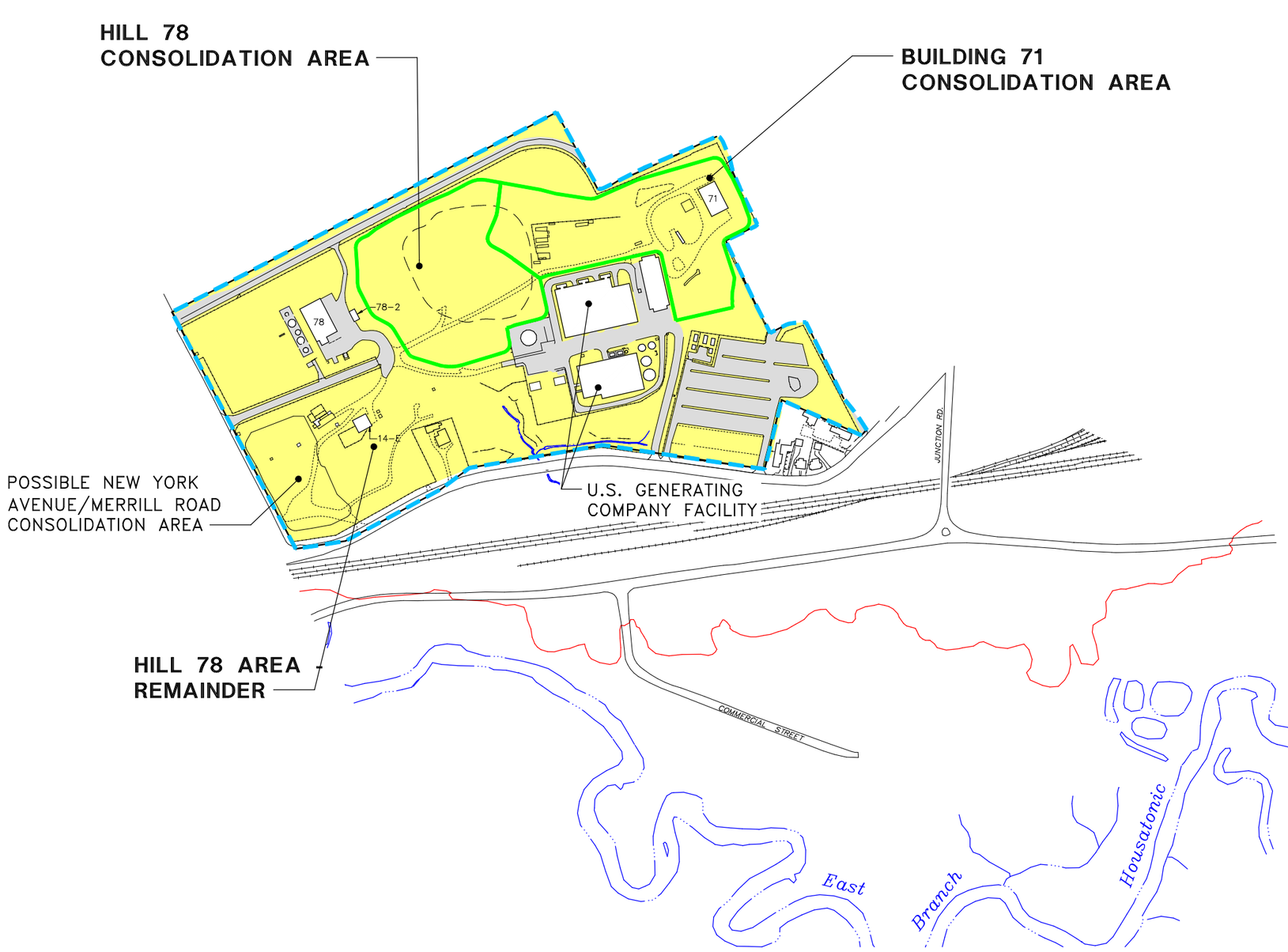
GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
STATEMENT OF WORK FOR
REMOVAL ACTIONS OUTSIDE THE RIVER

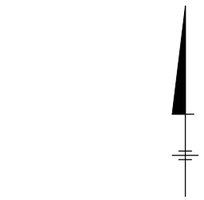
GE PLANT AREA RAAs - WESTERN PORTION

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE 2-1

X:20140X01,201SRF01
LMAN: AREA-RAA
P: STD-PCP/DL, HP85BL
9/10/99 SYR-54-YCC GMS NES
20140003/REM-OU/20140B2A.DWG





LEGEND:

- APPROXIMATE REMOVAL ACTION AREA BOUNDARY
- FENCE
- 100-YEAR FLOODPLAIN BOUNDARY
- UNPAVED AREA
- PAVED AREA
- APPROXIMATE LIMITS OF POTENTIAL ON-PLANT CONSOLIDATION AREAS

NOTES:

1. MAPPING IS BASED ON AERIAL PHOTOGRAPHS AND PHOTOGRAMMETRIC MAPPING BY LOCKWOOD MAPPING, INC. -FLOWN IN APRIL 1990; DATA PROVIDED BY GENERAL ELECTRIC COMPANY; AND BLASLAND, BOUCK & LEE, INC. (BBL) CONSTRUCTION PLANS, AND ON OBSERVATIONS DURING A SITE VISIT BY BBL PERSONNNEL ON DECEMBER 3, 1997.
2. SITE BOUNDARIES ARE APPROXIMATE.
3. NOT ALL PHYSICAL FEATURES SHOWN.
4. EXTENT OF PAVED/UNPAVED AREAS IS APPROXIMATE.
5. 100-YEAR FLOODPLAIN BOUNDARY IS BASED ON FLOOD ELEVATIONS PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY:
"FLOOD INSURANCE STUDY - CITY OF PITTSFIELD, MASSACHUSETTS" JANUARY 16, 1987; AND
"FLOOD INSURANCE RATE MAP - CITY OF PITTSFIELD, MASSACHUSETTS" (PANELS 250037 0010C AND 25037 0020C), FEBUARY 19, 1982, AND TWO-FOOT CONTOUR TOPOGRAPHIC MAPPING GENERATED PHOTOGRAMETRICALLY IN 1990 AT A BASE SCALE OF 1:2,400.

0 400' 800'

GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

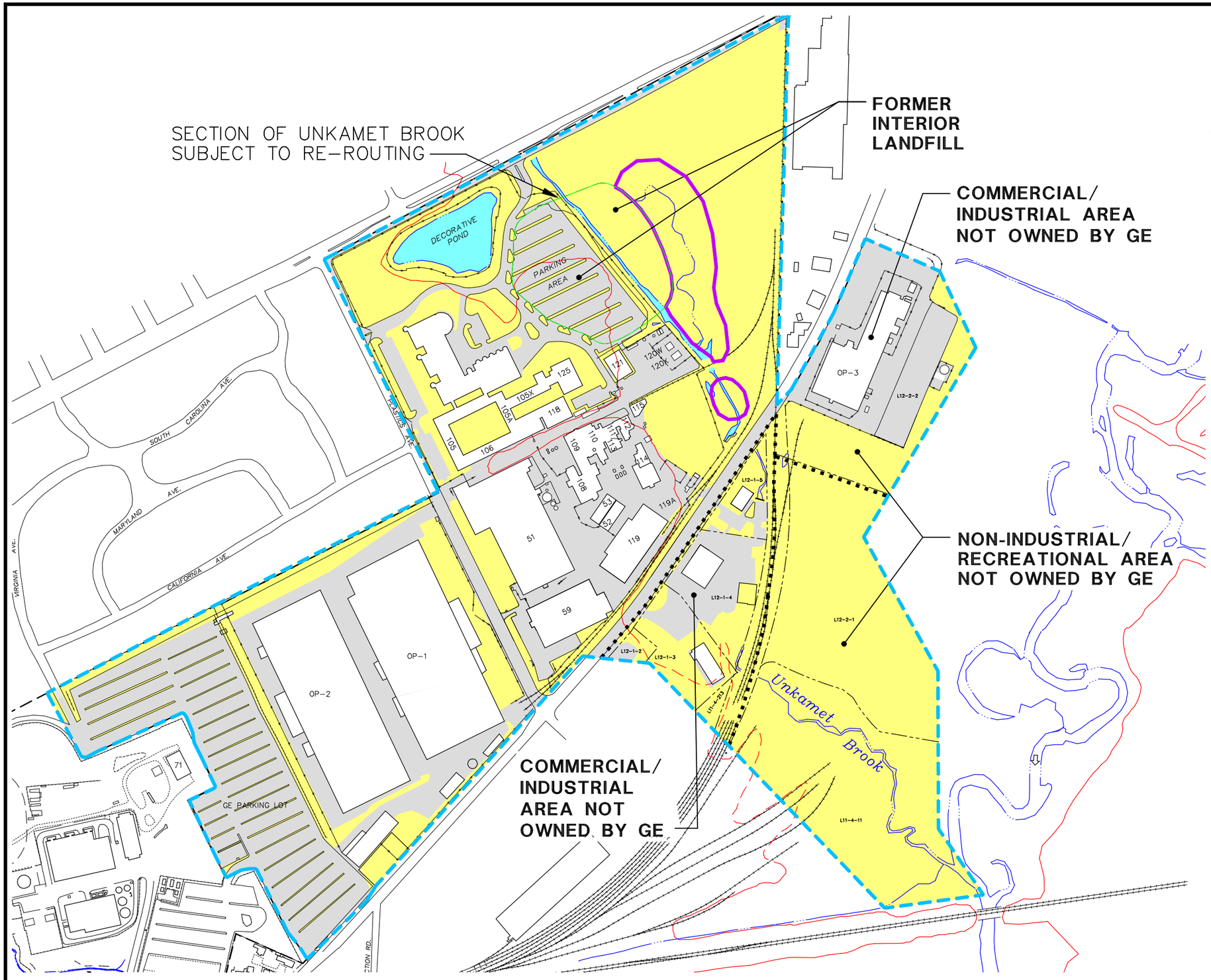
STATEMENT OF WORK FOR
REMOVAL ACTIONS OUTSIDE THE RIVER

GE PLANT AREA RAAs - CENTRAL PORTION

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE
2-2

X: 20140X01, 201SRF01.DWG
LMAN: AREA-RAA
P: STD-PCP/D2BL, HP85BL
9/10/99 SYR-54-YCC GMS NES
20140003/REM-OU/20140B2B.DWG



LEGEND:

- APPROXIMATE REMOVAL ACTION AREA BOUNDARY
- SUBAREAS OF REMOVAL ACTION AREAS (APPROXIMATE)
- FENCE
- PROPERTY LINE
- L12-2-1 PROPERTY IDENTIFICATION
- 100-YEAR FLOODPLAIN BOUNDARY (DASHED WHERE INFERRED)
- APPROXIMATE PALUSTRINE/EMERGENT WETLANDS BOUNDARY
- UNPAVED AREA
- PAVED AREA
- WATER

NOTES:

1. MAPPING IS BASED ON AERIAL PHOTOGRAPHS AND PHOTOGRAMMETRIC MAPPING BY LOCKWOOD MAPPING, INC. -FLOWN IN APRIL 1990; DATA PROVIDED BY GENERAL ELECTRIC COMPANY; AND BLASLAND, BOUCK & LEE, INC. (BBL) CONSTRUCTION PLANS, AND ON OBSERVATIONS DURING A SITE VISIT BY BBL PERSONAL ON DECEMBER 3, 1997.
2. SITE BOUNDARIES ARE APPROXIMATE.
3. NOT ALL PHYSICAL FEATURES SHOWN.
4. EXTENT OF PAVED/UNPAVED AREAS IS APPROXIMATE.
5. 100-YEAR FLOODPLAIN BOUNDARY IS BASED ON FLOOD ELEVATION PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY: "FLOOD INSURANCE STUDY - CITY OF PITTSFIELD, MASSACHUSETTS" JANUARY 19, 1987; AND "FLOOD INSURANCE RATE MAP - CITY OF PITTSFIELD, MASSACHUSETTS" (PANELS 250037 0010C AND 25037 0020C), FEBRUARY 19, 1982, AND TWO-FOOT CONTOUR TOPOGRAPHIC MAPPING GENERATED PHOTOGRAMETRICALLY IN 1990 AT A BASE SCALE OF 1:2,400.
6. TAX ASSESSORS' PARCEL IDENTIFICATION NUMBERS AND BOUNDARY INFORMATION OBTAINED FROM CITY OF PITTSFIELD'S TAX ASSESSOR'S OFFICE AND IS CURRENT THROUGH SEPTEMBER 5, 1997.

0 400' 800'

GRAPHIC SCALE

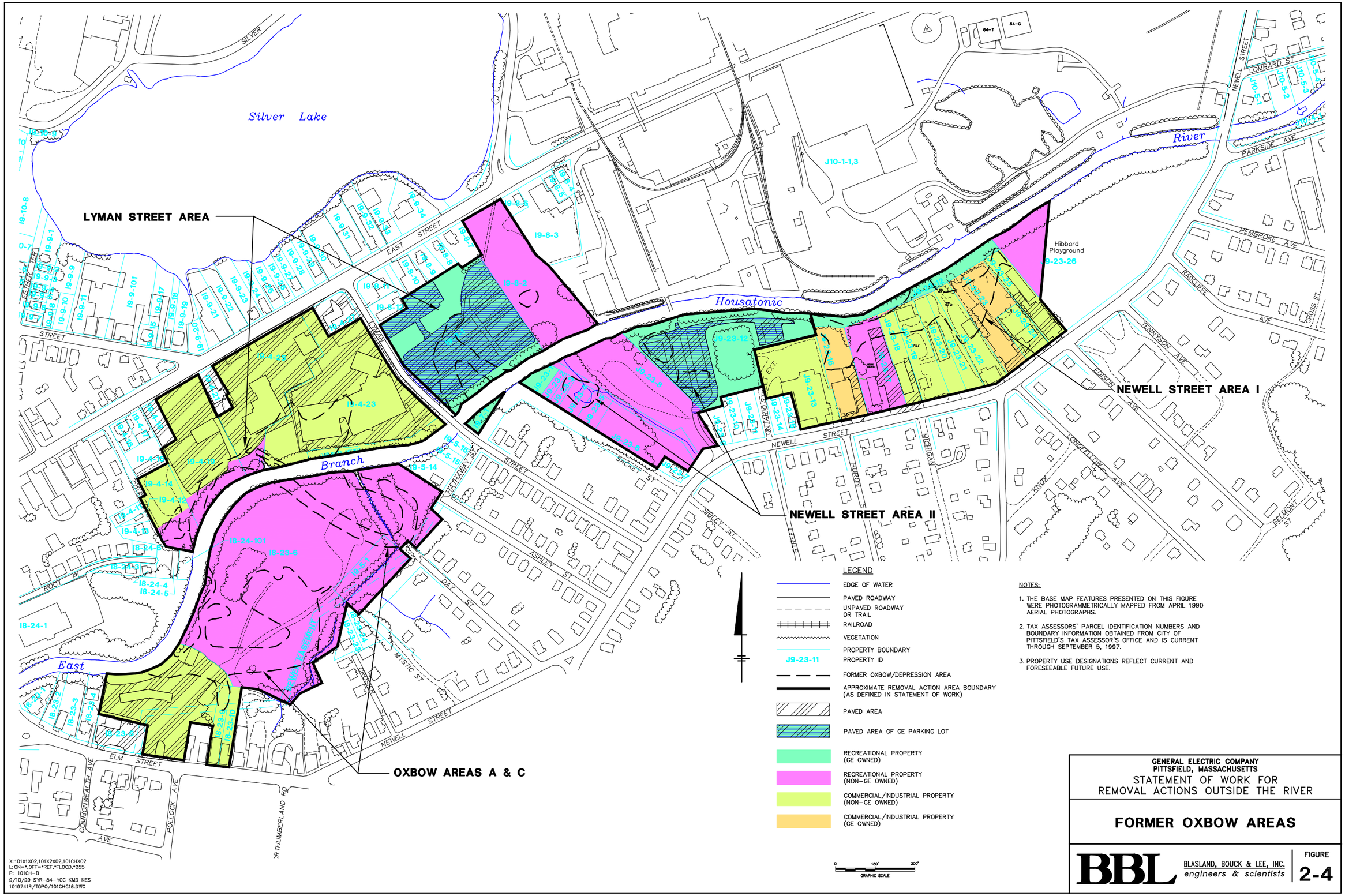
X: 20140X01,201SRF01
LMAN: AREA-RAA
P: STD-PCP/D2BL, HP85BL
9/10/99 SYR-54-YCC KMD NES
20140003/REM-OU/20140B02.DWG

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
STATEMENT OF WORK FOR
REMOVAL ACTIONS OUTSIDE THE RIVER

GE PLANT AREA RAAs - UNKAMET BROOK AREA

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE 2-3



LEGEND

- EDGE OF WATER
- PAVED ROADWAY
- UNPAVED ROADWAY OR TRAIL
- RAILROAD
- VEGETATION
- PROPERTY BOUNDARY
- J9-23-11 PROPERTY ID
- FORMER OXBOW/DEPRESSION AREA
- APPROXIMATE REMOVAL ACTION AREA BOUNDARY (AS DEFINED IN STATEMENT OF WORK)
- PAVED AREA
- PAVED AREA OF GE PARKING LOT
- RECREATIONAL PROPERTY (GE OWNED)
- RECREATIONAL PROPERTY (NON-GE OWNED)
- COMMERCIAL/INDUSTRIAL PROPERTY (NON-GE OWNED)
- COMMERCIAL/INDUSTRIAL PROPERTY (GE OWNED)

0 150' 300'
GRAPHIC SCALE

NOTES:

1. THE BASE MAP FEATURES PRESENTED ON THIS FIGURE WERE PHOTOGRAMMETRICALLY MAPPED FROM APRIL 1990 AERIAL PHOTOGRAPHS.
2. TAX ASSESSORS' PARCEL IDENTIFICATION NUMBERS AND BOUNDARY INFORMATION OBTAINED FROM CITY OF PITTSFIELD'S TAX ASSESSOR'S OFFICE AND IS CURRENT THROUGH SEPTEMBER 5, 1997.
3. PROPERTY USE DESIGNATIONS REFLECT CURRENT AND FORESEEABLE FUTURE USE.

X:101X1X02,101X2X02,101CHX02
L:ON=*,OFF=*REF,*FLOOD,*255
P: 101CH-B
9/10/99 SYR-54-YCC KMD NES
1019741R/TOPO/101CHG16.DWG

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
STATEMENT OF WORK FOR
REMOVAL ACTIONS OUTSIDE THE RIVER

FORMER OXBOW AREAS

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

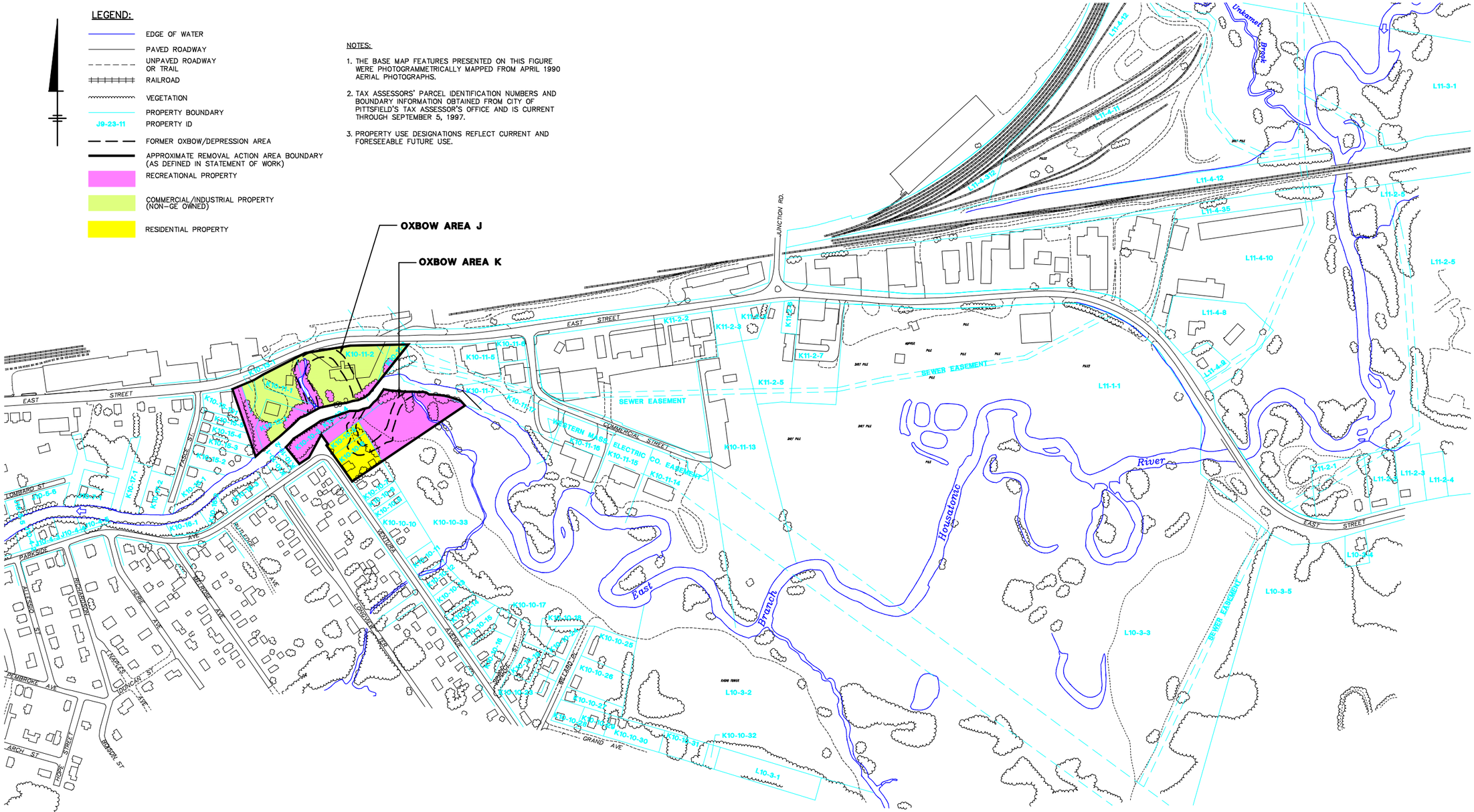
FIGURE 2-4

LEGEND:

- EDGE OF WATER
- PAVED ROADWAY
- UNPAVED ROADWAY OR TRAIL
- RAILROAD
- VEGETATION
- PROPERTY BOUNDARY
- J9-23-11 PROPERTY ID
- FORMER OXBOW/DEPRESSION AREA
- APPROXIMATE REMOVAL ACTION AREA BOUNDARY (AS DEFINED IN STATEMENT OF WORK)
- RECREATIONAL PROPERTY
- COMMERCIAL/INDUSTRIAL PROPERTY (NON-GE OWNED)
- RESIDENTIAL PROPERTY

NOTES:

1. THE BASE MAP FEATURES PRESENTED ON THIS FIGURE WERE PHOTOGRAMMETRICALLY MAPPED FROM APRIL 1990 AERIAL PHOTOGRAPHS.
2. TAX ASSESSORS' PARCEL IDENTIFICATION NUMBERS AND BOUNDARY INFORMATION OBTAINED FROM CITY OF PITTSFIELD'S TAX ASSESSOR'S OFFICE AND IS CURRENT THROUGH SEPTEMBER 5, 1997.
3. PROPERTY USE DESIGNATIONS REFLECT CURRENT AND FORESEEABLE FUTURE USE.



X:101X1X01,101CHX02
L:ON=*,OFF=*REF*,*ROW
P: STD-PCP/DL-36, D2BL, 101CH-B
9/10/99 SYR-54-RLP KMD NES
1019741R/TOPO/101CHG17.DWG

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

STATEMENT OF WORK FOR
REMOVAL ACTIONS OUTSIDE THE RIVER

FORMER OXBOW AREAS J AND K

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE 2-5

CONNECTICUT AVENUE

B.T. WALK

B.T. WALK

B.T. WALK

CONNECTICUT AVENUE

DRIVE

CONC.

PARKING

ALLENDALE SCHOOL

CHAIN LINK FENCE

CHAIN LINK FENCE

CHAIN LINK FENCE

VIRGINIA AVENUE

EXISTING TREES

CHAIN LINK FENCE

BRUSH

TYLER STREET EXTENSION

LEGEND:

—x—x— EXISTING CHAIN LINK FENCE

EXISTING TREES AND BRUSH

AREAS SUBJECT TO APRIL 1998 SOIL REMOVAL ACTIONS

AREA SUBJECT TO 1997 SOIL REMOVAL ACTIONS

APPROXIMATE LIMIT OF PREVIOUSLY INSTALLED SOIL CAP

APPROXIMATE PROPERTY BOUNDARY

80' 0 80'

APPROXIMATE SCALE

L: ON=*, OFF=*REF
P: STD-PCP/DL, HP858L
9/10/99 SYR-54-RLP KMD NES
20140003/REM-OU/20140C02.DWG

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

STATEMENT OF WORK FOR
REMOVAL ACTIONS OUTSIDE THE RIVER

ALLENDALE SCHOOL PROPERTY

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

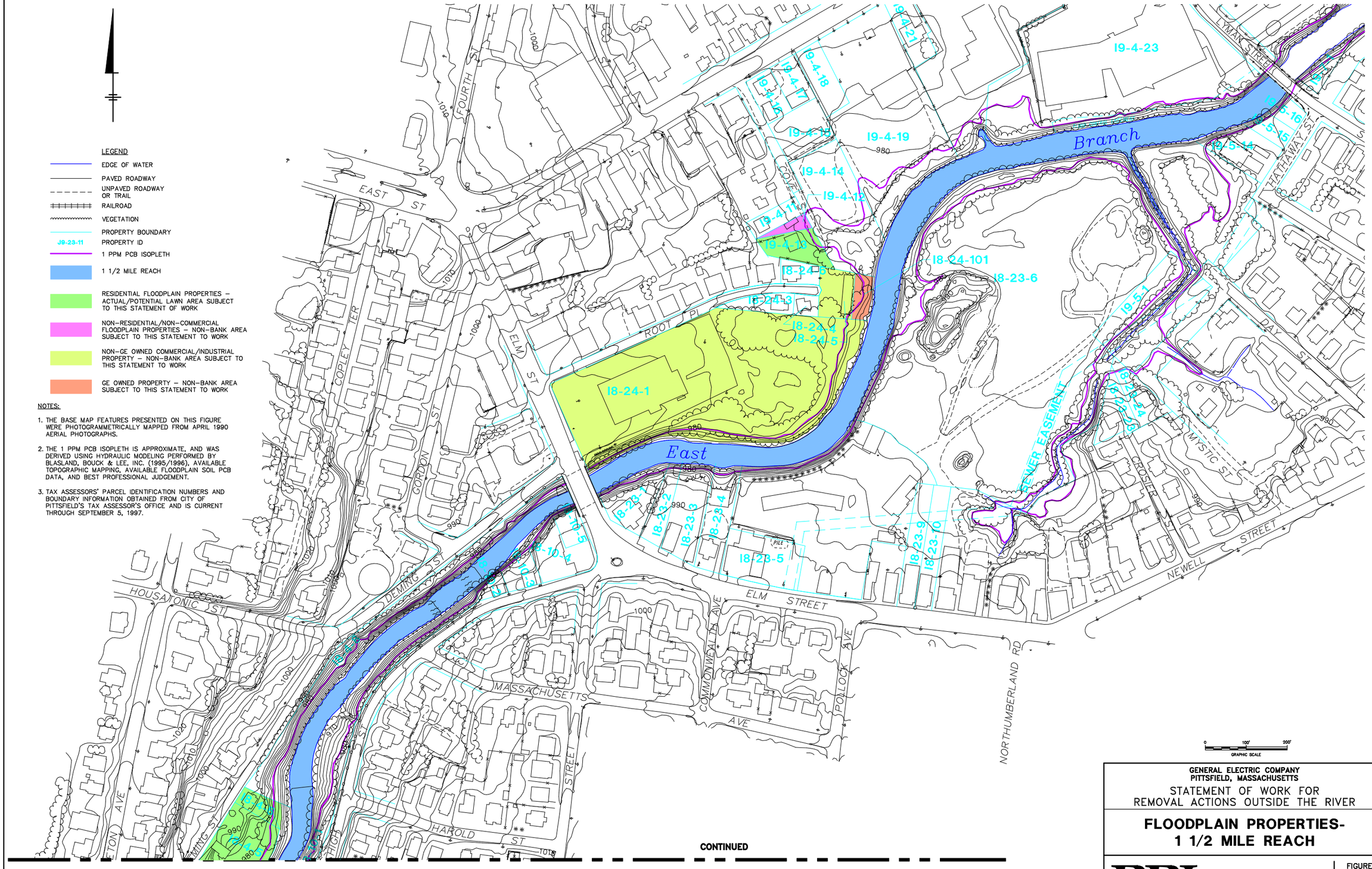
FIGURE 2-6

LEGEND

- EDGE OF WATER
- PAVED ROADWAY
- UNPAVED ROADWAY OR TRAIL
- RAILROAD
- VEGETATION
- PROPERTY BOUNDARY
- J9-23-11 PROPERTY ID
- 1 PPM PCB ISOPLETH
- 1 1/2 MILE REACH
- RESIDENTIAL FLOODPLAIN PROPERTIES – ACTUAL/POTENTIAL LAWN AREA SUBJECT TO THIS STATEMENT OF WORK
- NON-RESIDENTIAL/NON-COMMERCIAL FLOODPLAIN PROPERTIES – NON-BANK AREA SUBJECT TO THIS STATEMENT TO WORK
- NON-GE OWNED COMMERCIAL/INDUSTRIAL PROPERTY – NON-BANK AREA SUBJECT TO THIS STATEMENT TO WORK
- GE OWNED PROPERTY – NON-BANK AREA SUBJECT TO THIS STATEMENT TO WORK

NOTES:

1. THE BASE MAP FEATURES PRESENTED ON THIS FIGURE WERE PHOTOGRAMMETRICALLY MAPPED FROM APRIL 1990 AERIAL PHOTOGRAPHS.
2. THE 1 PPM PCB ISOPLETH IS APPROXIMATE, AND WAS DERIVED USING HYDRAULIC MODELING PERFORMED BY BLASLAND, BOUCK & LEE, INC. (1995/1996), AVAILABLE TOPOGRAPHIC MAPPING, AVAILABLE FLOODPLAIN SOIL PCB DATA, AND BEST PROFESSIONAL JUDGEMENT.
3. TAX ASSESSORS' PARCEL IDENTIFICATION NUMBERS AND BOUNDARY INFORMATION OBTAINED FROM CITY OF PITTSFIELD'S TAX ASSESSOR'S OFFICE AND IS CURRENT THROUGH SEPTEMBER 5, 1997.



CONTINUED

0 100' 200'
GRAPHIC SCALE

X:101X1X02,101X2X02,101CLX00,101CLX01
L:ON=*,OFF=*REF,*FLOOD,*MAP-255
P: 101CL-B
9/10/99 SYR-54-YCC GMS NES
1019741R/TOPO/101CLG02.DWG

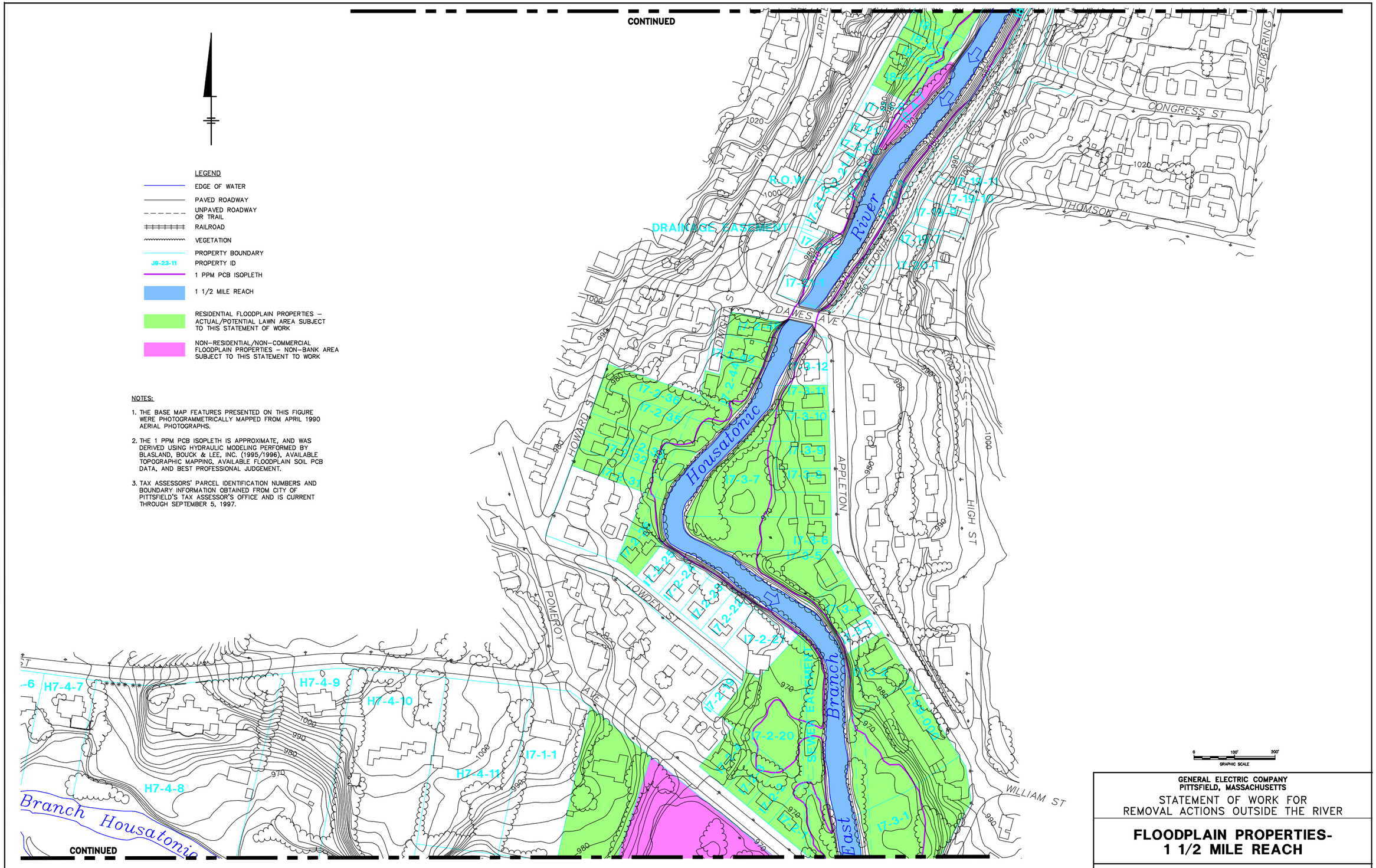
GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

STATEMENT OF WORK FOR
REMOVAL ACTIONS OUTSIDE THE RIVER

FLOODPLAIN PROPERTIES- 1 1/2 MILE REACH

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 2-7



NOTES:

1. THE BASE MAP FEATURES PRESENTED ON THIS FIGURE WERE PHOTOGRAMMETRICALLY MAPPED FROM APRIL 1990 AERIAL PHOTOGRAPHS.
2. THE 1 PPM PCB ISOPLETH IS APPROXIMATE, AND WAS DERIVED USING HYDRAULIC MODELING PERFORMED BY BLASLAND, BOUCK & LEE, INC. (1995/1996), AVAILABLE TOPOGRAPHIC MAPPING, AVAILABLE FLOODPLAIN SOIL PCB DATA, AND BEST PROFESSIONAL JUDGEMENT.
3. TAX ASSESSORS' PARCEL IDENTIFICATION NUMBERS AND BOUNDARY INFORMATION OBTAINED FROM CITY OF PITTSFIELD'S TAX ASSESSOR'S OFFICE AND IS CURRENT THROUGH SEPTEMBER 5, 1997.

X:101X1X02,101X2X02,101X1X3A,101X2X3A,101CLX00,101CLX01
L:ON=*,OFF=*REF,*FLOOD
P: 101CL-B
9/30/99 SYR-54-YCC NES CBM
1019741R/TOPO/101CLG03.DWG

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

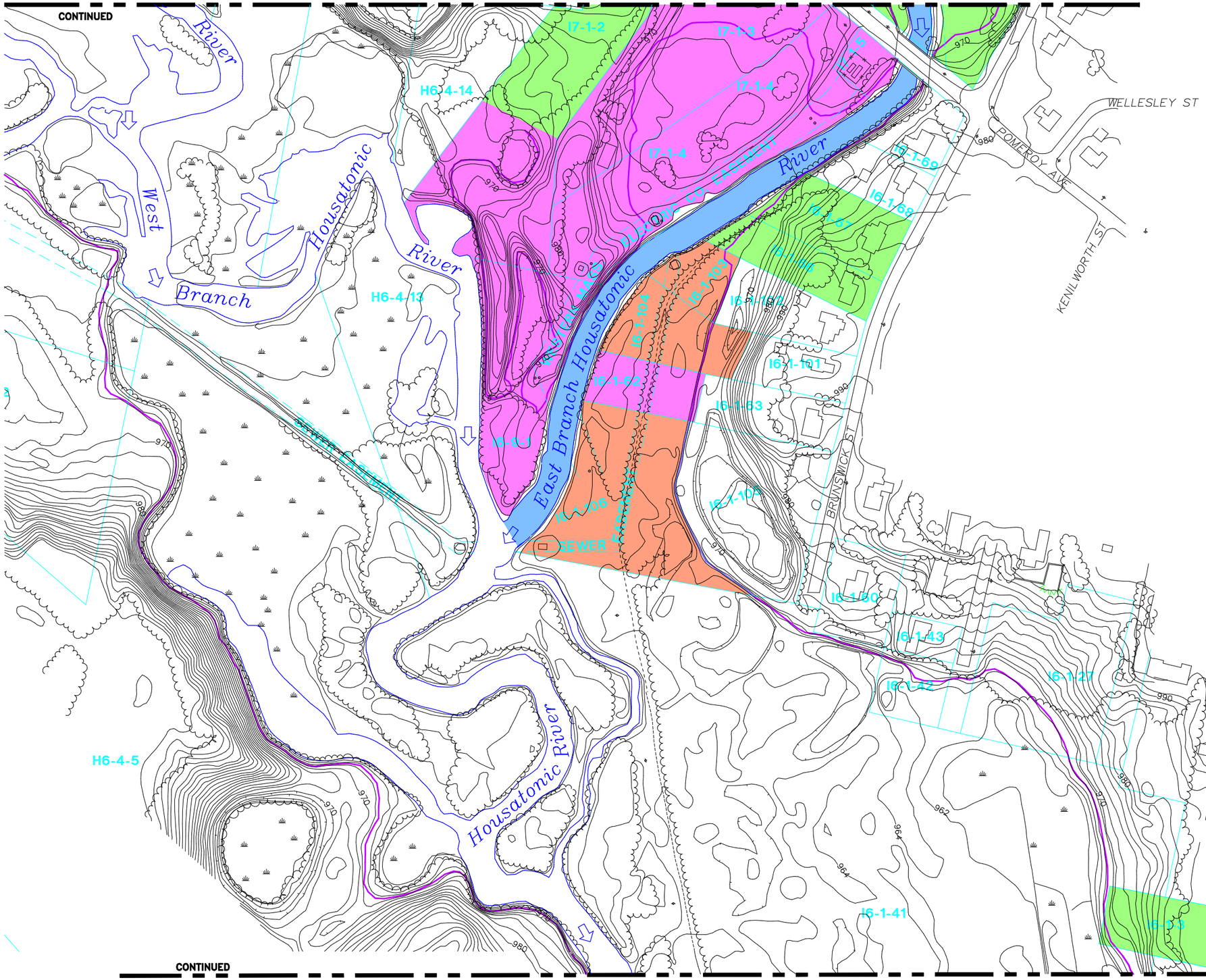
STATEMENT OF WORK FOR
REMOVAL ACTIONS OUTSIDE THE RIVER

FLOODPLAIN PROPERTIES- 1 1/2 MILE REACH

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE 2-8

CONTINUED



CONTINUED

LEGEND

- EDGE OF WATER
- PAVED ROADWAY
- UNPAVED ROADWAY OR TRAIL
- RAILROAD
- VEGETATION
- PROPERTY BOUNDARY
- J9-23-11 PROPERTY ID
- 1 PPM PCB ISOPLETH
- 1 1/2 MILE REACH
- RESIDENTIAL FLOODPLAIN PROPERTIES – ACTUAL/POTENTIAL LAWN AREA SUBJECT TO THIS STATEMENT OF WORK
- NON-RESIDENTIAL/NON-COMMERCIAL FLOODPLAIN PROPERTIES – NON-BANK AREA SUBJECT TO THIS STATEMENT TO WORK
- GE OWNED PROPERTY – NON-BANK AREA SUBJECT TO THIS STATEMENT TO WORK

NOTES:

1. THE BASE MAP FEATURES PRESENTED ON THIS FIGURE WERE PHOTOGRAMMETRICALLY MAPPED FROM APRIL 1990 AERIAL PHOTOGRAPHS.
2. THE 1 PPM PCB ISOPLETH IS APPROXIMATE, AND WAS DERIVED USING HYDRAULIC MODELING PERFORMED BY BLASLAND, BOUCK & LEE, INC. (1995/1996), AVAILABLE TOPOGRAPHIC MAPPING, AVAILABLE FLOODPLAIN SOIL PCB DATA, AND BEST PROFESSIONAL JUDGEMENT.
3. TAX ASSESSORS' PARCEL IDENTIFICATION NUMBERS AND BOUNDARY INFORMATION OBTAINED FROM CITY OF PITTSFIELD'S TAX ASSESSOR'S OFFICE AND IS CURRENT THROUGH SEPTEMBER 5, 1997.

0 100' 200'
GRAPHIC SCALE

CONTINUED

X: 101X1X3A,101X1X3B,101X2X3A,101X2X3B,101CLX00,101CLX01
L: ON=*, OFF=*REF, *FLOOD, *STM
P: 101CL-B
9/17/99 SYR-54-YCC NES GMS
1019741R/TOPO/101CLG04.DWG

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

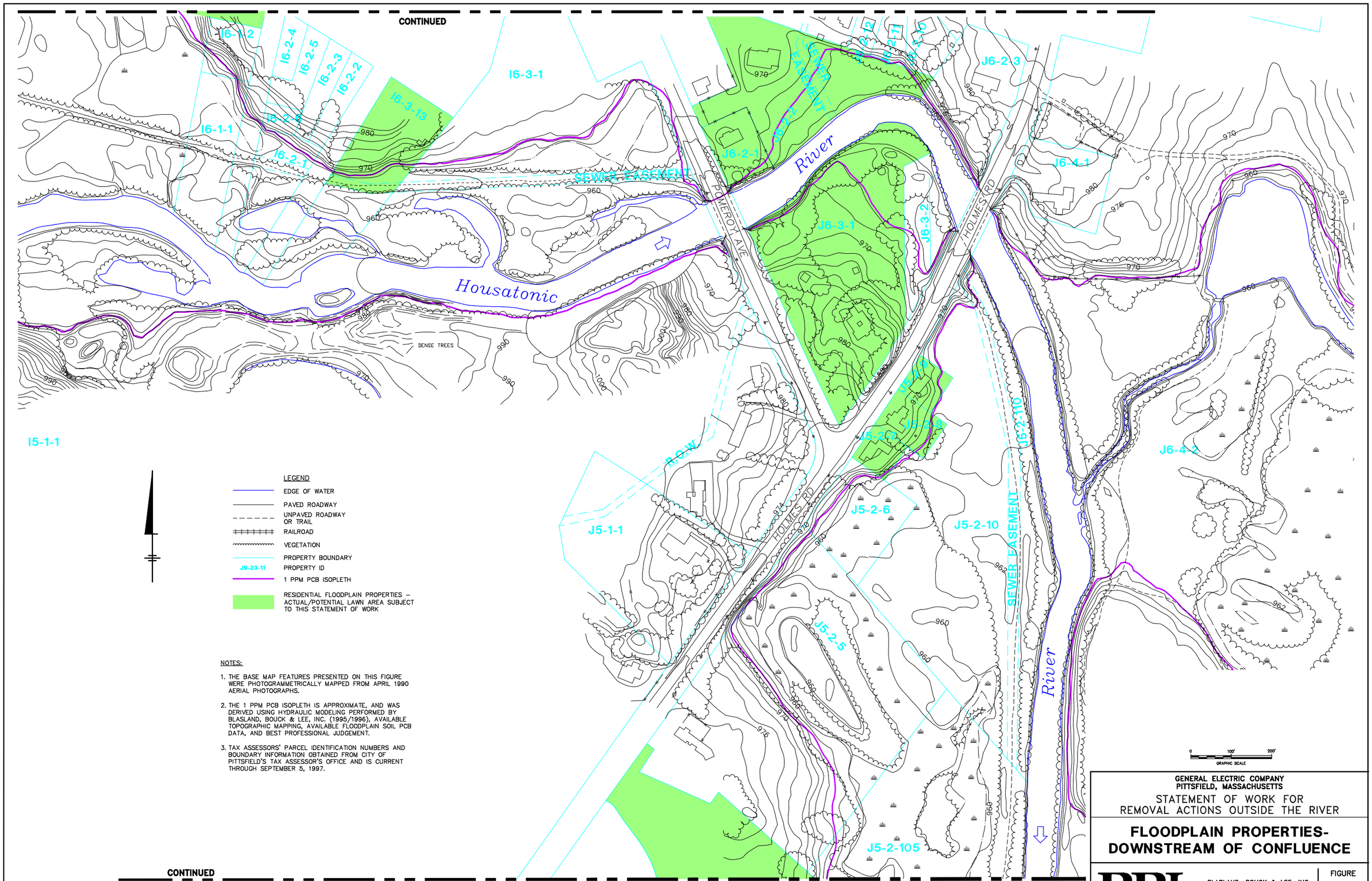
STATEMENT OF WORK FOR
REMOVAL ACTIONS OUTSIDE THE RIVER

FLOODPLAIN PROPERTIES- 1 1/2 MILE REACH/DOWNSTREAM OF CONFLUENCE

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE 2-9

CONTINUED



LEGEND

- EDGE OF WATER
- PAVED ROADWAY
- UNPAVED ROADWAY OR TRAIL
- RAILROAD
- VEGETATION
- PROPERTY BOUNDARY
- J9-23-11 PROPERTY ID
- 1 PPM PCB ISOPLETH
- RESIDENTIAL FLOODPLAIN PROPERTIES – ACTUAL/POTENTIAL LAWN AREA SUBJECT TO THIS STATEMENT OF WORK

NOTES:

1. THE BASE MAP FEATURES PRESENTED ON THIS FIGURE WERE PHOTOGRAMMETRICALLY MAPPED FROM APRIL 1990 AERIAL PHOTOGRAPHS.
2. THE 1 PPM PCB ISOPLETH IS APPROXIMATE, AND WAS DERIVED USING HYDRAULIC MODELING PERFORMED BY BLASLAND, BOUCK & LEE, INC. (1995/1996), AVAILABLE TOPOGRAPHIC MAPPING, AVAILABLE FLOODPLAIN SOIL PCB DATA, AND BEST PROFESSIONAL JUDGEMENT.
3. TAX ASSESSORS' PARCEL IDENTIFICATION NUMBERS AND BOUNDARY INFORMATION OBTAINED FROM CITY OF PITTSFIELD'S TAX ASSESSOR'S OFFICE AND IS CURRENT THROUGH SEPTEMBER 5, 1997.

0 100' 200'
GRAPHIC SCALE

CONTINUED

X:101X1X04,101X2X04,101CLX00,101CLX01
L:ON=*,OFF=*REF,*FLOOD
P: 101CL-B
9/10/99 SYR-54-YCC GMS NES
1019741R/TOPO/101CLG05.DWG

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

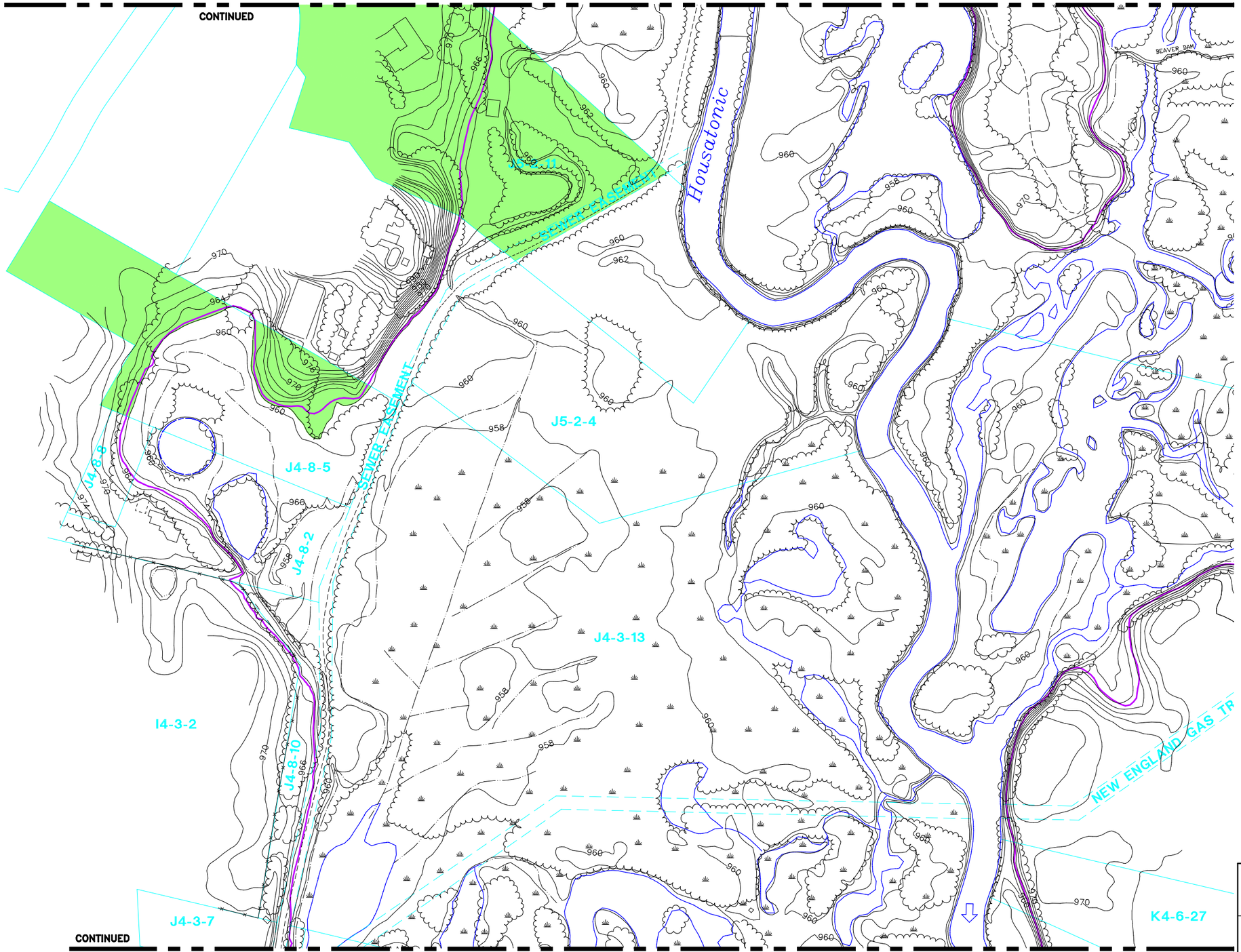
STATEMENT OF WORK FOR
REMOVAL ACTIONS OUTSIDE THE RIVER

FLOODPLAIN PROPERTIES- DOWNSTREAM OF CONFLUENCE

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 2-10

CONTINUED



LEGEND

- EDGE OF WATER
- PAVED ROADWAY
- UNPAVED ROADWAY OR TRAIL
- RAILROAD
- VEGETATION
- PROPERTY BOUNDARY
- J9-23-11 PROPERTY ID
- 1 PPM PCB ISOPLETH
- RESIDENTIAL FLOODPLAIN PROPERTIES – ACTUAL/POTENTIAL LAWN AREA SUBJECT TO THIS STATEMENT OF WORK

NOTES:

1. THE BASE MAP FEATURES PRESENTED ON THIS FIGURE WERE PHOTOGRAMMETRICALLY MAPPED FROM APRIL 1990 AERIAL PHOTOGRAPHS.
2. THE 1 PPM PCB ISOPLETH IS APPROXIMATE, AND WAS DERIVED USING HYDRAULIC MODELING PERFORMED BY BLASLAND, BOUCK & LEE, INC. (1995/1996), AVAILABLE TOPOGRAPHIC MAPPING, AVAILABLE FLOODPLAIN SOIL PCB DATA, AND BEST PROFESSIONAL JUDGEMENT.
3. TAX ASSESSORS' PARCEL IDENTIFICATION NUMBERS AND BOUNDARY INFORMATION OBTAINED FROM CITY OF PITTSFIELD'S TAX ASSESSOR'S OFFICE AND IS CURRENT THROUGH SEPTEMBER 5, 1997.

0 100' 200'
GRAPHIC SCALE

CONTINUED

X: 101X1X04,101X2X04,101CLX00,101CLX01
L: ON=*,OFF=*REF,*FLOOD
P: 101CL-B
9/10/99 SYR-54-YCC GMS NES
1019741R/TOPO/101CL606.DWG

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

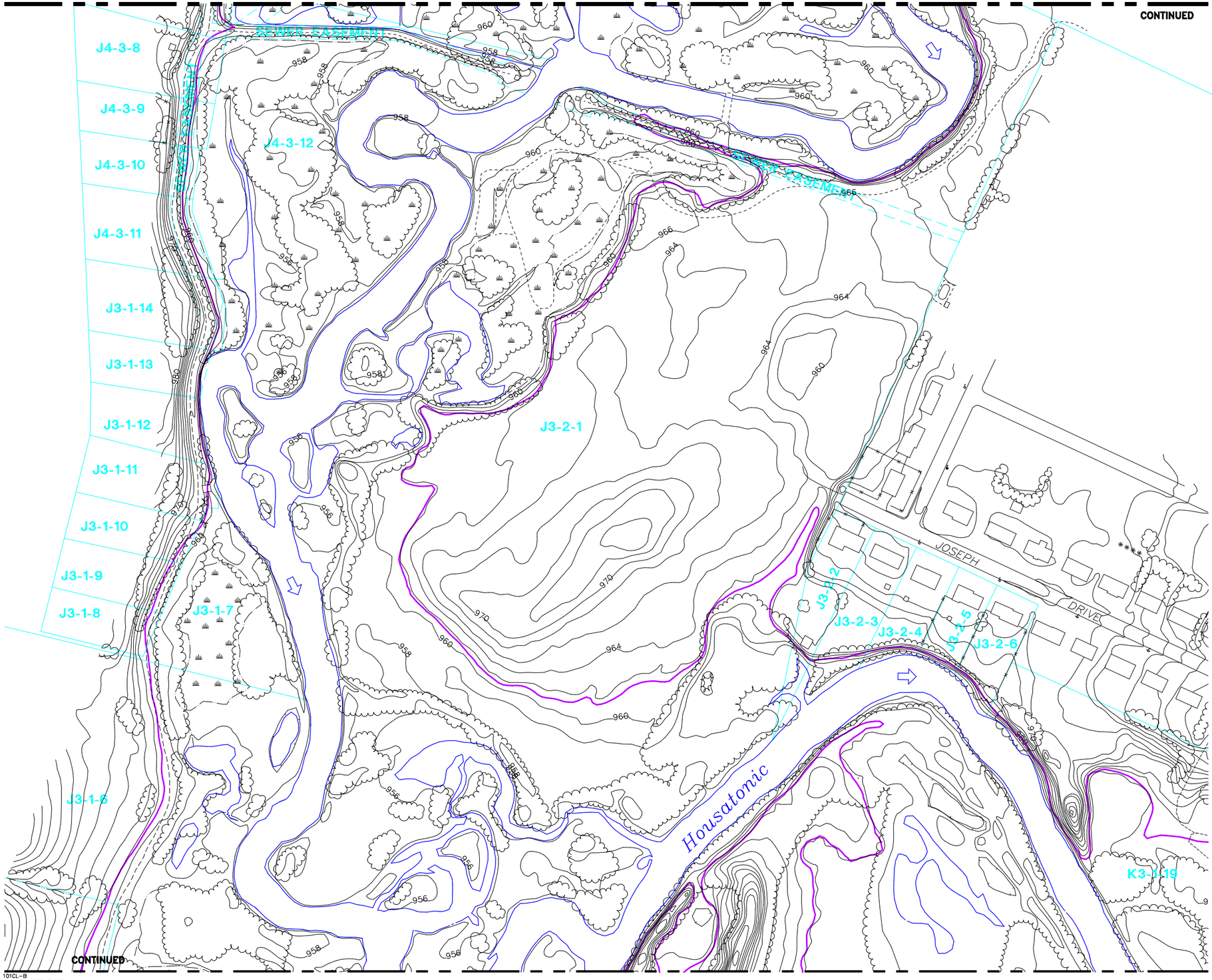
STATEMENT OF WORK FOR
REMOVAL ACTIONS OUTSIDE THE RIVER

FLOODPLAIN PROPERTIES-DOWNSTREAM OF CONFLUENCE

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE 2-11

CONTINUED



CONTINUED

LEGEND

- EDGE OF WATER
- PAVED ROADWAY
- UNPAVED ROADWAY OR TRAIL
- RAILROAD
- VEGETATION
- PROPERTY BOUNDARY
- J9-23-11 PROPERTY ID
- 1 PPM PCB ISOPLETH

NOTES:

1. THE BASE MAP FEATURES PRESENTED ON THIS FIGURE WERE PHOTOGRAMMETRICALLY MAPPED FROM APRIL 1990 AERIAL PHOTOGRAPHS.
2. THE 1 PPM PCB ISOPLETH IS APPROXIMATE, AND WAS DERIVED USING HYDRAULIC MODELING PERFORMED BY BLASLAND, BOUCK & LEE, INC. (1995/1996), AVAILABLE TOPOGRAPHIC MAPPING, AVAILABLE FLOODPLAIN SOIL PCB DATA, AND BEST PROFESSIONAL JUDGEMENT.
3. TAX ASSESSORS' PARCEL IDENTIFICATION NUMBERS AND BOUNDARY INFORMATION OBTAINED FROM CITY OF PITTSFIELD'S TAX ASSESSOR'S OFFICE AND IS CURRENT THROUGH SEPTEMBER 5, 1997.

0 100' 200'
GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

STATEMENT OF WORK FOR
REMOVAL ACTIONS OUTSIDE THE RIVER

FLOODPLAIN PROPERTIES- DOWNSTREAM OF CONFLUENCE

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 2-12

P: 101CL-B
L:ON=*,OFF=*REF,*FLOOD
X:101X1X05,101X2X05,101CLX00,101CLGX01
9/10/99 SYR-54-YCC NES
1019741R/TOPO/101CLG07.DWG